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# MEDICAL REPOSITORY,

FOR

NOVEMBER AND DECEMBER, 1807, AND JANUARY, 1808.

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REMARKS *on the YELLOW FEVER and EPIDEMIC CATARRH, as they appeared in South-Carolina during the Summer and Autumn of 1807: In a Letter from DAVID RAMSAY, M. D. &c. to Dr. MITCHILL, dated Charleston, Dec. 24, 1807.*

**Y**OUR favour of the 26th ult. was duly received. I rejoice that politics have not so far monopolized your attention as to exclude attention to science; and that amidst the interesting questions respecting peace or war, you are seeking for information respecting the prevailing diseases of different portions of our extensive country.

I cheerfully comply with your request in giving a concise view of the medical history of the year 1807, in Charleston, South-Carolina. The first seven months produced nothing very uncommon, except that dysenteries and dropsies carried off great numbers of the newly-imported Africans. Though these diseases terminated fatally in Charleston, they did not originate there. It is well known that dysenteries are commonly engendered in camps by foul air. They might, therefore, reasonably be expected in the African slave ships, where such crowds of human beings were almost constantly shut up without a supply of fresh air, and frequently with a scanty allowance of unwholesome food and bad water. The same causes operated so extensively in producing dropsies, that there was scarcely a cargo of negroes brought into the port, of which there was not a portion labouring under dropsical swellings, most generally of the anasarca kind.

About the middle of August the yellow fever commenced, though that and the preceding months had been unusually healthy. In the course of the season it proved fatal to one hundred and seventy-six persons, of whom eighteen died in August, one hundred and fourteen in September, forty-two in October, and two in November. The first death in Charleston from the yellow fever of 1807,

took place about the 15th of August, and the last on the 2d of November. As usual, this disease was almost exclusively confined to strangers. A few children, and a few persons who had spent one or two summers, or even more, in Charleston, became its victims. The history of the disease was not materially variant from what is common, and has been so often described as to preclude the necessity of repetition. It bore tonic medicines sooner than was usual: and on their early application after competent evacuations, and on the liberal use of blisters, the recovery of persons labouring under it very much depended. The unseasoned negroes were not wholly exempt from its ravages; but they escaped from it much oftener than other strangers, and when attacked, had the disease in a slighter degree, and, if properly treated, were more generally cured. This was probably the effect of their coming from a climate not very dissimilar to that of Carolina. It is a well known fact, that persons, both black and white, arriving from the West-India islands, enjoy similar exemption from the yellow fever in Charleston. The disease in no instance proved contagious. Some who had taken it retired to the adjacent country, but oftener to enjoy the salubrious air of Sullivan's Island. In both cases, whether they lived or died, the disease terminated with them, and was in no instance propagated from them. I mention this circumstance with pleasure, as it will assist in confirming your learned and judicious observations on the absurdity of quarantine laws. I most heartily wish you success in your endeavours to illuminate the public mind on that misconceived subject, and to rescue the nineteenth century from the reproach of continuing useless laws, founded in the ignorance and error of a comparatively unenlightened period.

The *Influenza*, gradually advancing from the northern States, reached Charleston early in September. It spared neither age nor sex, though children oftenest escaped altogether, or, if attacked, got through the disease with the least inconvenience. The reverse was the case with aged persons. It soon became so general, that in some large families there was not a sufficiency of well persons to attend on the sick. In a few weeks it is supposed that fourteen thousand persons, or half the population of Charleston, had been afflicted with that disease. Of these, forty-four died, thirteen of whom were white persons, and thirty-two negroes. The former were generally aged persons. The disease spread in every



direction into the country. The mortality in Georgetown and Beaufort was considerably greater than in Charleston. Some of our citizens, who, according to custom, had returned from the northern States in October, were again subjected to the disease, though they had passed through it in the course of their tour. The propensity to a relapse, or a second attack of the disease, gave rise to a new medical term, for such cases were called re-influenzas. The disease in many cases was so mild as to preclude the necessity of application to a physician. Indeed, several got well, though they treated themselves with a heating regimen. The consumption of honey and other pectoral medicines was immense. Almost every family had a prescription of their own for allaying the attendant cough, which was often very troublesome. These were generally useful, though composed of different, and sometimes of opposite ingredients.

The words of the poet, with a little variation, may be applied to them :

" 'Tis with our nostrums as our watches ; none  
" Are just alike, yet each believes his own."

In dangerous cases, when medical aid was required, bleeding, blistering, emetics and sudorifics were chiefly relied upon. Anodynes did not afford the relief they often do in common complaints of the breast. Mercurial aperients seemed useful in cases of great infarction, but castor oil was used much more generally, and with great advantage. Much good resulted from keeping the bowels gently open ; but strong purgatives, especially if repeated, weakened the expectorating powers, and remotely contributed to the congestion of phlegm in the bronchia.

The influenza in its commencement resembled the yellow fever, with a pain in and over the eyes, and with red streaks over the cornea. A sharp water of an acrid quality was discharged from the eyes, and sometimes from the nostrils. In such cases a hoarseness and soreness of the throat was usual. The sense of smelling was sometimes impaired, the hearing was frequently injured, and in a few cases the powers of vision were diminished. A tightness and stricture across the breast, with a dry cough, was common. The matter expectorated was occasionally tinged with blood. The whole mucous membrane lining the fauces, nostrils and bronchia, was uncommonly stuffed with phlegm. In the aged, the disease assumed the form of a peripneumony ; in the young and plethoric, that of a pleurisy. Persons of a consumptive

diathesis, or who had been subject to old coughs or diseases of the breast, suffered most, and oftenest relapsed. Spit-tings of blood, and other serious precursors of consumption, attacked such patients after the disease had in their cases apparently vanished and generally disappeared. The final result remains to be determined by time; if the too common custom of slight covering, or no covering at all, should be continued by the females, and aggravated by a severe winter, and inattention on their part, the consequences of the influenza may to them be more serious after the apparent termination of the disease, than when it was at its height.

With the exception of diseases consequent on the influenza, since the general disappearance of that disease early in November, the inhabitants of Charleston have enjoyed a great share of health: though the season has been so uncommonly dry, that in the country it has been difficult, and sometimes impossible to procure a competent supply of water for the cattle. In this general calamity, Charleston, standing on the point of a peninsula, has not partaken; for, from recent examination, our wells were found to contain from six to seven feet water, which is but little short of the common standard of ordinary seasons.

*CASE of Discharge from the URETHRA of a PIN, which had been taken into the STOMACH: Communicated by Dr. JESSE F. JONES, to Dr. MILLER.*

THE following case being somewhat extraordinary, I have thought fit to communicate it for your consideration; and you are at liberty to make what use of it you think proper.

Peggy, an ancient female domestic in my family, in the month of March, 1804, inadvertently swallowed a pin, which gave her some uneasiness as it passed the œsophagus, but by swallowing a piece of bread after it, the pin passed into the stomach. Nothing more was thought of the circumstance until July or August, when she complained of a pain in her stomach and bowels, with a nausea at times. Supposing that it proceeded from a bilious obstruction, I administered an emetic, which operated well both upward and downward, yet without relief; but she observed that the pain settled down lower in the abdomen, which lasted several

months, when it gradually wore off, until it quite ceased sometime in the fore part of winter ; and she appeared to enjoy her usual health, until June, 1805, at which time she was seized with a strangury, and severe pain in passing her urine, which was emitted only in small quantity, and mixed with a considerable portion of blood. The symptoms growing more violent, demulcents, anodynes and diuretics were used, with the antiphlogistic course, for the space of a week ; when, to my surprize, I was informed that a hard substance presented itself at the orifice of the urethra, which was extracted with much pain, and considerable effusion of blood, when the symptoms disappeared, and in a few days the patient recovered. On examining the substance, it was found to be the pin which she had swallowed fifteen months before, covered with a calculous matter to a considerable thickness, except about the eighth of an inch at the point, which was entirely naked. The head of the pin was covered with the calculus to the size of a small garden pea, and quite smooth ; below which was found a small neck, which increased in size as it approached the point, to the bulk of a large currant, and very rough ; at the largest circumference was a circular ridge, which was jagged with sharp points, which was the cause of the effusion of blood. The pin presented with its head ; it would have been impossible for it to have passed with the point foremost, as the rough jagged ridge would have prevented. I did intend sending the pin to you, but showing it to some neighbouring physicians, unfortunately a part of the calculus was broken from the pin. The question naturally arises, in what manner the pin passed from the intestines to the bladder, and from what part of that canal it made the perforation ? also, how it could perforate the bladder without producing a great degree of inflammation in that viscus ; or whether it is possible to pass in any other manner than by producing an inflammation and adhesion of the intestine and bladder ? On these questions I would solicit your opinion.



**OBSERVATIONS on the EPIDEMIC DISEASE which prevailed in the City of New-York during Part of the Summer of 1807: Communicated to the College of Physicians and Surgeons, by JACOB V. BROWER, M. D.**

Febris catarrhalis epidemica. *Hippocrates.*

Tussis epidemica. *Sydenham.*

Catarrhus a contagio. *Cullen.*

Rheuma epidemicum. *Sauv. Sp. 2.*

Catarrhus epidemicus. *Sauv. Sp. 3.*

Synocha catarrhalis. *Sauv. Sp. 5.*

### INFLUENZA.

Inflammatiō membranæ mucosæ quæ protegit vias respirationis.

**T**HE technical term Catarrh is derived from the Greek words κατα, deorsum, and ρεω, fluo. By expressing the common appearance of a defluxion of humours, it was intended, by the inventor of that term, to convey an idea of the nature of the complaint which it was designed to represent. *Influenza* is an Italian word, the literal signification of which is, *Influence*. By influence, we must understand a powerful something, which was supposed by astrologers to descend from the heavenly bodies, and to produce all sublunary events. When that opinion, it has been observed, was general among philosophers, physicians, who saw the catarrhus fever remarkably epidemical, sought for a cause, but could find none except the influence of the stars: whence the Italians gave it the name of *Influenza*.

It is proposed, in this paper, to offer a description and history of the epidemic disease, irrevocably called *Influenza*, which prevailed in the city of New-York during the month of August, 1807.

#### 1. DESCRIPTION.

The symptoms of the influenza were various in their commencement, progress, and termination, in different individuals. Numbers were seized with a cold paroxysm, which was attended and succeeded with pains in the head, back, loins and limbs; general soreness throughout the body, and universal languor and debility. These symptoms in a great many instances were not preceded by a cold pa-

roxysm. When they were present, the skin was commonly dry and hot, pulse frequent, and thirst increased, with other marks of pyrexia. As the fever abated, the time of which abatement varied from twenty-four to seventy-two hours from its commencement, a troublesome and very disagreeable cough began to supervene. This cough, which in the beginning was generally dry, came on by fits, with violent efforts to expectorate, and was attended with a sensation of rawness in the throat and breast. The paroxysms of coughing continued from three to fifteen minutes. Repeated exertions of that kind produced want of sleep, an increase of pain in the head, pain in the muscles of the thorax and of the abdomen, an hæmoptœ, vomiting, and an augmentation of the soreness and rawness in the chest. A small portion of mucus or viscid phlegm was occasionally expectorated, which for some time mitigated the violence of those efforts. The skin in this state of the malady was commonly moist, the tongue white, and the pulse soft. Dyspnœa and other symptoms of pneumonic affections, were, in many cases, more or less prominent. The inflammation sometimes extended to the pleura, and produced most of the usual marks of pleuritis. Many observations, however, led me to conclude that the concomitant fever had no tendency to the typhoid type.

The first symptoms which could be discovered very frequently were coryza, a slight cough, an impaired appetite, and some degree of debility. This form of the influenza was not much regarded by persons who were thus attacked, and they generally pursued their ordinary business, under the impression of having only a common cold. They seemed for a time to resist the encroachments of disease with success, but were finally compelled to resign the victory to superior force. The disease prevailed, and they were obliged to retreat with reluctance to their beds. Chills supervened, the fever and pains, similar to those which have been enumerated, were so distressing, that those persons who had experienced an attack of malignant fever, were apprehensive of labouring under that malady. But they found themselves agreeably disappointed when their pains abated, and a cough, with the other concomitant symptoms related above, became more and more urgent, and claimed particular attention. When the mucous membrane of the nostrils was the part first, separately and distinctly affected, the inflammation soon after evidently appeared, by the symptoms, to travel

down toward the lungs. By this route of the inflammation, if duly attended to, we could, with ease and satisfaction, account for the abatement of some symptoms, and the addition and augmentation of others.

When the whole virulence of disease was determined to the head, and the mucous membrane of the nose became the principal part affected, the following symptoms were most prominent and troublesome. An obtuse, disagreeable sensation across the forehead, dulness of the intellect, a copious defluxion from the nose and mouth, and a limpid fluid trickled from the eyes; with more or less power in those discharges to irritate the parts with which they came in contact. The wings of the nostrils were red, and considerably distended; the passages of the nose were obstructed, so that air could not be forced through them in the acts of inspiration and of expiration; a sensation of dryness and tickling in the internal fauces; occasional sneezing; sometimes a small discharge of blood from the nose mixed with mucus, and the sense of smell nearly obliterated. The eyelids were inflamed, and beside an unusual secretion of watery fluid from the eyes, there was an increase of sensibility and considerable pain in those organs upon motion or exposure to the light. A dulness in the sense of hearing, with a sensation as if one passage, and sometimes as if both passages, to the internal parts of the ear were obstructed: on examining that organ, we could clearly perceive a superabundant quantity of wax accumulated there. The sense of taste was somewhat vitiated; sleep disturbed, and appetite impaired; some cough and pyrexia; thinness and paleness of the face, loss of flesh, with other marks of debility and emaciation.

In all forms and varieties of the influenza there was present a preternatural sensibility of the body to impressions from cold. In proportion as expectoration became more free and copious, the pains diminished, and the cough was less harsh and severe. Hoarseness, an obstinate loss of appetite, copious perspiration, particularly at night, or an exacerbation of the cough at that time, were not unfrequent appearances. There was a peculiarity in the cough, which could be distinguished by its sound, from that attending most sporadic cases of catarrh during the winter season. It was produced by a full inspiration, which was followed by two quick convulsive efforts of raising phlegm from the lungs, the first effort fuller, more violent, and more sonorous than the second.



Colic, rheumatic pains, and stitches in various parts of the body, were anomalous symptoms. Some persons were troubled particularly with a sensation of fulness and swelling in the region of the stomach, and dizziness of the head, especially on stooping, when all external objects appeared to change their colours. Others, after a partial recovery, had a second attack more severe than the first. In most instances the cough was a very troublesome and distressing symptom: many of the sick lingered with it four or five, and some of them six weeks, before perfect health could be restored. Those of consumptive habits, either experienced a regular form of the disease, or had their complaints to a great degree aggravated.

In a few of the sick who came under my observation, the characteristic symptoms of influenza abated, and a typhus mitior fever, the *febris lenta nervosa* of Dr. Huxham, supervened. I have been informed of an instance, in which, from all appearances, the complaint terminated in an effusion of serous fluid into the cavity of the bronchial tubes. Other maladies, as far as my observations extend, into which the epidemic sickness terminated, were pleuritis, peripneumonia vera, and finally phthisis pulmonalis.

## 2. HISTORY.

The influenza began to be epidemic toward the close of the month of July, 1807, and in the space of three weeks, probably, half of the inhabitants of New-York became affected. About the middle of August, recent cases of that disease were less frequent; but the original sicknesses, for the most part, still continued their career; some of which began to assume a lingering typhous character. The epidemic spread with great rapidity among people of both sexes, and of all ages, classes, conditions and occupations of life. Those who were confined to their rooms and to their beds by previous sickness, were not exempt from it. But the influenza appeared to me to be most prevalent among people who were exposed to the vicissitudes of the weather: and yet the most alarming forms of it were seen among those inhabitants who led sedentary lives. Its continuance in different individuals varied from two to six weeks. Many experienced a slight attack only, who were able to attend to their customary avocations: numbers were seen standing in the streets until their fits of coughing had abated; some of whom were observed to be affected with an hæmoptœ.

The weather, in general, throughout the summer season, was remarkably cool: the atmosphere, at times, underwent sudden changes: I found it for three or four successive days very moist, and then suddenly change to a state of dryness. There were many violent gales of wind, which were preceded sometimes by a calm of only a few hours continuance. We had but few thunder showers. On the seventh and eighth days of August, great quantities of rain fell, and on the latter day the rain was accompanied with hail of a large size. About this time typhus fever and cholera morbus began to increase in frequency. On the thirteenth day of the same month, there was rain, and the atmosphere felt cold and disagreeable; but the following day the air became close, sultry, and confined. On the twenty-seventh and some days previous, we had invigorating breezes from the west, without rain, which excited sensations of cold to a degree altogether unaccountable by the fall of the thermometer only.

The epidemic influenza, which terminated its career in this city about the beginning of September, was preceded by ophthalmia, which proved to be rapid in its progress, violent in degree, and very obstinate in resisting the ordinary methods of cure. Toward the close of September, measles made their appearance, and a number of catarrhal affections, which proved to be similar to those of a preceding description, in which the virulence of disease was determined to the head and to the mucous membrane which lines the nose.

There are thirteen deaths of influenza reported in the bills of mortality for the city of New-York, during the late prevalence of that disease. Hence the cases which had a fatal termination appear to be very few in comparison to the whole number of persons who were affected. But I have before observed, that the influenza did sometimes terminate in phthisis pulmonalis; the truth of which assertion will be confirmed by comparing the weekly reports, since the appearance of the former complaint, with the corresponding reports of the year 1806.

The following statement shows the number of deaths of consumption during the months of July, August, September, and October, of the present, and of the preceding year.

1806. In July	25	1807. In July	32
August	23	August	44
September	26	September	42
October	24	October	41

From the above statement, and other considerations, we may with propriety conclude, that although the late epidemic was not in general a mortal disease per se, it nevertheless was indirectly the cause of carrying many persons into their graves.

### 3. ESSENTIAL CAUSE.

From the rapidity of the progress of influenza, we are led to conclude, that the essential cause of that epidemic is an imperceptible and an insensible agent which can pervade all places. The atmosphere invites our attention: its properties and modifications, with their different effects on human health, deserve more scrutinizing researches than have ever been given to that universal and highly important medium. If the air, at times, have any insensible modifications, it must be a desideratum, if within the reach of human intellect, to make them evident to our understandings. Unless we give our inquiries a direction to that point, the true causes of some epidemic disorders will, for a long time to come, remain concealed in the abyss of obscurity. The influenza is commonly a malady of great extent, and is apt to form, in a short space of time, what may be called an universal epidemic. Its essential cause consequently cannot be generated or confined in any particular place or city, but is probably produced by some grand operation of nature, and diffused through extensive portions of the globe; sometimes perhaps through the whole habitable world.

### 4. MEDICAL TREATMENT.

The simplest and least debilitating plan of treatment, as a general rule, appeared to me the most proper. It consisted of cathartics, diluents, pediluvium and mucilaginous pectorals, with the elixir paregoricum: emetics in particular cases. When inflammatory symptoms ran high, blisters and venæsection: but the lancet was used, under every circumstance, with some degree of caution and circumspection. A close confinement of patients, and a strict adherence to the anti-phlogistic regimen, was, in general, judged improper. A light and nutritious diet for patients who were severely affected; but those persons who had only a slight attack, although their coughs were troublesome, required little or no alteration in their usual modes of living.



*Account of the Art now practized in Europe for multiplying Copies of Drawings and Manuscripts, by means of a peculiar Stone and Ink, lately discovered: Communicated to Dr. MITCHILL, by D. B. WARDEN, Secretary of Legation to the American Embassy at Paris, and by C. P. DELASTEYRIE, Member of the National Institute, &c.*

THE LITHOGRAPHIC art has been lately introduced into Paris, and has been improved by a Mr. André, to whom the government has granted a *patent of importation* for impressions made in this way.

In the last bulletin of the society for the promotion of national industry, there is a short notice of this invention. It appears that the author is Mr. Aloyo Senefelder, of Germany, and that in 1801, a patent was given in England to the person who made it known there.

The stone employed here for this purpose, is calcareous, of a tolerably fine grain, and compact. I have seen an engraving of this kind which is well executed, and is sold at a very low price. They also print music here in the same manner, and with great success.

The process employed, which I extract from the above-mentioned bulletin, is as follows, viz. To make the ink with which the engraving is traced upon the stone, lac is dissolved in the ley-ashes of pure soda, to which is added a little soap: the mixture is coloured with lampblack.

A pen is employed to write thereon as in the ordinary way.

The stone, which ought to be very smooth and even, is then immersed in water, which renders its surface moist. In striking it in this state with a printer's ball, the ink attaches itself to the traces made with the pen, and not to the other parts of the stone. It is then covered with a sheet of moistened paper, which is passed under the roller, and an engraving is obtained, which is named the *counter-proof* of the original.

A prepared crayon, having the same consistence as an Italian crayon, has been recommended, but it does not succeed well.

Mr. Nicholson, in his journal of February last, says, that the liquid which is employed for writing, ought to dry for two or three days before the impression is made. It is found by experience, here, that the ink dries immediately.

Four or five thousand copies may be obtained from the same engraving.

It would thus appear that this art may become highly useful; more especially if a method be discovered of applying it with ease to impressions of writing. André, whom I mentioned above, has found out some plan which is yet known only to himself and to the workmen employed. Perhaps, from habit, they have learned to write in an inverted manner, with facility and quickness. In the course of a few minutes they present an impression of writing consisting of several lines. If this art were within the reach of individuals generally, what a luxury it would afford! The literary man would be enabled to distribute occasionally among the circle of his friends, copies of pieces which are not intended for publication. It would give birth to various useful communications. The lower classes of society, for a trifling sum, might possess engravings of the first objects of nature. The farmer, mechanic, or artist, could furnish himself with plans of machines and instruments, which at present are possessed only by those in the higher class of life. The arts and manufactures would thus reap immense benefit from the discovery. As a political machine, it would be a thousand times more formidable than the press in use. Under the most despotic government, handbills could be struck off, and no proof remain of their origin, except what the smoothness and particular form of the stone might exhibit.

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*Extracts from Mr. Delasteyrie's Letter concerning the Stone employed to multiply Engravings or Copies of Manuscripts.*

“I CONCEIVED it would be agreeable to you to receive a sample of the stone used by the artist in Paris, who is remarkably expert in taking impressions of drawings or writings. I was in hopes of procuring a piece of the very material that he employs. But I found this to be impossible; as it is all brought hither from Franconia, in Germany. I have, however, made excursions to discover the like, and have succeeded. It certainly exists in several parts of France. The specimen I send you was found in the neighbourhood of Paris. The quarries of gypsum are usually covered with a layer of this sort of stone, which is not more than from three to seven centimetres in thickness. It does not often occur in large fragments. Whence I conclude, that if this art of POLYAUTOGRAPHY should get into

general use, there would not be materials enough of a proper size, hereabout, to carry it on.

"The artist, who now follows the business at Paris, and to whom I have communicated my discovery, is of opinion that these stones are of as good quality as those from Germany. He intends to make experiments upon them. They in fact resemble each other. They are hard, have a fine grain, take a beautiful polish, and possess the property of imbibing a certain quantity of water.

"I send you some of the ink to be used for writing on this stone, in imitation of the original. It is composed of soda and the resin of the *pinus maritimus*; and answers perfectly. It has been published that lac is employed. I have tried that process, without succeeding; though it is possible I did not apply heat enough.—I attach a high value to this discovery; for I entertain a belief that it may be carried to a great length, and be useful not only in copying designs, but in printing books. Its dispatch and cheapness exceed every thing that we have been accustomed to look for on this subject. Attempts are, therefore, making to simplify and perfect the art, with a particular regard to improvement of printing by means of it. It is my belief that the difficulties in the way of this latter object are by no means insurmountable. I take a lively interest in these matters: for it would surpass common typography in the means of diffusing all kind of instruction. I shall give you information of whatever discoveries I shall make, in the course of my experiments and researches into this subject; for it is but fair that America should be benefited by it, as well as old Europe."

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ACCOUNT of the successful Extirpation of TUMOURS from the NECK; stated in a Letter from Dr. CHARLES HARRIS, to Dr. CALVIN JONES: Communicated by Dr. JOHN C. OSBORN, to Dr. MILLER.

**I** DO myself the pleasure of stating to you an operation of surgery, which I lately performed on a lady for *Bronchocele*;\* and as an attempt of this kind has been hitherto

\* The common use of the term *bronchocele* is too indefinite; as it is employed by many surgeons to express every indolent tumour which occupies the fore part of the neck. Encysted tumours, of course, come under this latitude of definition; and such seems to have been the nature of the swell-



rare in the annals of surgery, I feel myself under obligations to make you acquainted with the reasons which decided me to hazard the undertaking.

I have frequently, in the line of my business, been applied to for advice in similar cases; all of them of enormous size, and of so many years standing, that I could not dare to recommend any thing farther than to beguile the time, and soothe the mind of the patient; but in which I could make no rational calculation to dissipate or discuss the tumour. The disease proceeded until the patient died, most commonly of compression and stricture of the throat and wind-pipe, and of varicose distention of the blood vessels of the brain from obstruction of the jugular veins.

These observations produced a determination in my mind to hazard an operation for extirpation of the tumour on the first willing subject, where the health of the patient was otherwise favourable to calculate on a successful cure.

About three years ago such a case was presented to me. After acquainting the patient of the fatal tendency of the disease, when suffered to go on in the ordinary way, and of the probability of success that extirpation would afford her, she agreed to run the risque. It was of recent origin, not more than a year from the time she had first discovered it, and not quite so large as a pullet's egg. I made an incision longitudinally its whole length through the integuments, and then carefully insinuated my fingers between the interstices of the muscles, until I laid the tumour bare. With my blunt probe conductor and my finger, I found it, as I apprehended, encysted. I then separated the superincumbent muscles from the tumour, until I had it detached from every thing except the trachea: to this I found it firmly adhered by an expansion of a ligamentous-like substance, which proceeded in a tendinous form from the os hyoides. This I dissected from the trachea, beginning at the inferior point, where I found the detachment most easily made, and proceeding upwards, denuding the trachea with a scalpel until I came to the upper extremity, and then finished the operation by dividing the ligament which proceeded from the os hyoides. This appeared of a firm condensed tendi-

lings which were so successful, <sup>ca</sup>extirpated by Dr. Harris. They certainly were not enlargements of the *thyroid gland*. Because the attempt to extirpate this, on account of its connection, and the size of its blood-vessels, has not only been always held to be hazardous, but in several instances has indubitably proved fatal.

*Ed.*

nous texture; and it is from hence that I suppose the tumour originated.

The hæmorrhage was very small, so that I did not think it necessary to join the edges of the wound by sutures. An adhesive plaster was applied, and in the course of a few days the edges adhered together by the first intention.

The tumour was dissected in a bason of warm water; the contents, when separated from the containing cyst, were found to resemble a cluster of ripe grapes.

About three months since, an application was made to me by a lady from South-Carolina.—I think the bronchocele was full as large as any I had ever seen: the tumour had been increasing for twenty-two years: it extended from the chin (which it buoyed up) along the trachea, until it descended an inch, or perhaps more, under the breast bone, and spread laterally a medial distance to each ear. You will observe that these tumours present a different feel from any thing we discover in wens, as they are entirely covered with muscles, which give them an elasticity similar to a tin canister.

I felt some time reluctant to hazard an operation which appeared so truly tremendous. Its magnitude, local situation, and want of precedents, deterred me for some time, until the earnest entreaties of the woman at length prevailed, who told me, that even death in the operation could shorten her life but for a few days, as without relief she must soon die a death of suffocation.

I divided the integuments from the chin to the sternum, then penetrated through the interstices of the muscles with my knife and finger, until the tumour appeared; the adhesions were gradually detached, by insinuating my finger upwards and downwards, and laterally, until all the anterior parts were detached, which was not a little difficult, as it was pressed in between the muscles to such an extent, that the cellular membrane had become condensed and firm, and more especially on the trachea.

When I had proceeded thus far, I was reduced to a new difficulty, to get it pressed out of the aperture; for the extremities of the incision were bounded by unyielding abutments, the chin and the breast bone; however, after a few efforts I squeezed it into an elongated form, and pressed it out. I was under the necessity, as formerly, to use the scalpel to assist in dividing it from the trachea. I found it also, as the other was, attached to the os hyoides by a large

tendinous-like substance, which spread over the whole posterior part of it: this ligament was secured by a ligature before it was divided, lest there might be blood-vessels in it, which had given the tumour nutrition: two small arteries were divided and secured when the incision was made through the muscles which covered them. Five interrupted sutures closed the wound. Absorption and adhesion took place in the course of about fifteen days; and in about a week afterwards, the patient took her leave under good prospects of complete restoration of health, and relief from pain.

Thus I am happy in having it in my power to assure you that this disease, which hath hitherto appalled surgical aid, admits of complete relief in almost any stage of it while the constitution remains sound. And this is the more important, as this disease is painful from its commencement, and operates as a perpetual sedative to hope, by the presence of death visibly and daily making his encroachments, ready to seize the unfortunate victim by the throat and extinguish life, not in the ordinary way, but by actual violence.

There is every reason that humanity can urge for surgeons to make themselves acquainted with the real nature and history of the disease in question, as far as it is in their power to do it; in order to relieve, and thereby continue the blessings of life and health to many of our fellow creatures, who have been hitherto consigned to no other alternative than the grave.

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ACCOUNT of the internal Exhibition of the ACETATE of LEAD in several DISEASES: Communicated by THOMAS EWELL, M. D. of Washington, to Dr. MILLER.

**L**AST August I was requested to visit a cartman, John Steins, addicted to drunkenness, and living near the navy yard, in an unhealthy situation. In the night he had been seized with fever, which was followed by a profuse discharge of blood from his stomach and anus; his wife said he had lost more than two gallons; and I found him with no pulse, looking exactly as a man dying, from loss of blood.

His alarming situation called for some powerful stimulus; but it occurred to me that his liver had been affected, which preventing the passage of blood through the vena portæ, was followed by that engorgement of the viscera, which had



caused the rupture of the blood-vessels of his bowels; and consequently that a stimulus would only serve to increase the power of the vessels to discharge the remaining blood. I immediately determined to give him the sugar of lead. On adverting to the urgency of the case, as well as the state of his stomach, which had been accustomed to the most powerful incitants, I directed him to take seven grains of the medicine every two hours, until the discharge of blood ceased. On swallowing the second dose, he exclaimed, "Great God, at length my guts are healed!" The discharge soon lessened, and no doubt the hæmorrhage stopt; but as a little blood (which had not been evacuated from the bowels) continued to come off, he took thirty-five grains in less than twelve hours. By degrees I gave him stimuli, and never did a man recover more rapidly: and this I considered as affording a new proof of the efficacy of free bleeding in curing fevers quickly. However, the man never could get over that particular pallid countenance, peculiar to those bled too copiously.

Shortly after the cure of Steins, I was called to David Mead, a drummer of the marine corps. He too was a drunkard, was fat, and indolent. He had a high fever, for which he was ordered bleeding, and a dose of calomel. In the night he was taken with a purging of blood, and I, without seeing him, directed injections of cold water. In the morning I found him almost dead; and the assistant surgeon, Doctor Harrison, pronounced "he was about to die." I ordered him to take five grains of sugar of lead every two hours: the bleeding ceased after the third, yet he took a fourth dose. His pulse began to rise in the evening, and next day I ordered him the bark: by the use of porter he soon recovered strength, though he continues very pale. He certainly lost a great deal of blood, but I cannot state the precise quantity.

On mentioning these cases to the Hon. Doctor Bibb, of the House of Representatives, from Georgia—he stated that with equal success, he had given the sugar of lead to a young lady, who, during a paroxysm of fever, had an intestinal hæmorrhage. The doses, however, which he prescribed did not exceed two grains—and the salvation of the life of his patient as certainly depended on the sugar of lead, as in the cases I have related.

My prejudice respecting the poisonous qualities of lead, being by these cases removed, I readily gave it a trial in

other instances. In uterine hæmorrhage, I found it of essential service, like all who used it before me.

Mrs. A. the wife of the D—— M——, of the marine corps, aged about forty-five years, had a constant discharge of blood from her vagina, for four months; within a few days it became so profuse as to endanger her life: when called to her, I directed the exhibition of three grains of sugar of lead every two hours. The third dose relieved, and since I have heard of no further complaints. In cases of diarrhœa, I have met with the same success, from the use of lead, which Dr. Archer has stated in a former number of the Repository. But the cases in which I used it, were attended with high inflammation; and one of my fellow practitioners told me, that the medicine uniformly failed, when the system was in a low state. Within the last month I have used it in the following case:

John Russel, a boy aged thirteen years, belonging to Lieut. Harriden, of the navy, drank at once, one pint and three gills of strong apple brandy. In a short time he had no pulse, quick respiration, and all around him thought he was dying. About five hours after the spirit was drank, I was called to him. Such was his inirritable state, that nothing which was introduced into his throat could excite vomiting. I had to rely only on external remedies, and these I applied in full force. It was only by severe general whippings, rubbing with mustard and vinegar, and finally by blisters caused by the blaze of fire, that I could excite any action in his system. In fifteen hours I had to resort to injections of æther, brandy, laudanum, and such stimulants, to keep him from sinking. These were discontinued by degrees, until the end of the third day. On the fourth day he had most excruciating pain in his abdomen, and serous discharges from his bowels—His pulse became highly inflammatory. Injections, purges, and prepared chalk did not relieve. In this situation I ordered him to take two grains of the lead every two hours. The third dose seemed to remove entirely the inflammation: so that in two days the boy had no other complaint but his blisters, which soon healing, he was discharged for duty. From this I conclude, that the lead is worthy of a trial in dysentery, at least after the evacnants are used.

When I found the throat and œsophagus of Russel so inirritable, I unsuccessfully endeavoured to procure a probang and flexible tube, to introduce into his stomach. With the

first I could have extracted some of the brandy in his stomach, and with the last probably the whole: so that the danger, from that alcohol, which had not acted, would have been removed. In all cases where poisons, such as spirits, opium, &c. are swallowed, and are followed by extreme inirritability of the throat, I have no hesitation in saying, that great relief might be afforded by introducing the end of some flexible tube into the stomach. By this tube much vapour would escape; the body could be so placed as to favour the running off of any fluid, or, at least, it would be practicable to evacuate considerably by suction: by dilution with water, and repeated evacuations, the stomach might be entirely cleansed. Indeed, my reflections on this subject have impressed me with the belief, that the introduction of such a tube into the stomach, for the evacuation of poisons, and into the rectum, up to the sigmoid flexion of the colon, for the escape of that flatus, causing colic, will prove of as much service to mankind as the catheter has been in the discharge of urine from the bladder. At least the practice I propose in such cases is far more reasonable than washing the stomach for some disorders, by means of an instrument, which, I observe, Heister says, was done by the elder surgeons.

The last cases which embarrassed me, and in which I administered the sugar of lead, were those of salivation. In the navy hospital under my care, I find frequent occasion for the use of mercury: in many instances the salivation has been excessive, and no mitigation of symptoms could be effected by opium, sulphur, blisters, purgatives, or any medicine that has been recommended. I have seen death arise in one instance from the salivation, and have apprehended it in many.

This was leading me to lessen the frequency of mercury in my prescriptions, until I found a remedy in the acetate of lead. Two cases occurred in the hospital at the same time, in which the salivation was alarming in degree, as well as duration.

It had occurred to me that the *saccharum saturni* cured hæmorrhagies and inflammations, by exciting the *action of contraction* in the vessels. Now, as mercury produces a contrary effect (for it really enlarges the vessels, as shown by the glands of the throat, &c.) it appeared to me that nature intended the action of one as much to counteract the action of the other in animals, as she did an acid to counteract an alkali: but be the theory correct or not, I administered the



lead in doses of two grains, four times a day. On the second day one of the poor men asked me for more of the medicine he took the day before. I gave it on the second day, and it was discontinued on the third, for they were both cured of the salivation. To this, I will add, that they washed their mouths with lead-water; and that the first time I ever found a bad symptom produced by the lead was in one of these cases. Violent belly-ache came on: this soon went off; and although the symptom may oftener occur with others than it has with me, I conceive it to be no objection to its use; for, but few would prefer a month's salivation to a pain in the abdomen for a few hours.

You have now the whole account of my use of the sugar of lead. I hope others of your correspondents will experience and communicate an account of its virtues. When fair trials are made of it, I feel confident that there will be no singularity in the high opinion entertained of it as an internal medicine.

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*An EXAMINATION of the Account of an Analysis of the BALLTOWN WATERS, as published in the last Number of the Medical Repository. (Hexade ii. vol. v. p. 214.)*  
By V. SEAMAN, M. D.

THE account of an analysis of a stale bottle of the mineral water of Balltown, as made in France, had it only appeared in one of our newspapers, might, however incorrect, have passed unnoticed; as its errors would probably have died with the day. But when we see this same account afterwards treasured up in the more grave form of an article in the Medical Repository, and again republished in the Monthly Anthology, of Boston, acknowledging it, at the same time, as a *public benefit*, we being *thereby* made acquainted with the composition of this valuable article of the materia medica, it certainly becomes a matter for animadversion; for who, upon reading that article, could believe that our citizens, who had for years been drinking of the waters of Saratoga, knew any thing of their qualities; or that our physicians, who were in the daily practice of prescribing them, had ever ascertained the nature of their contents? Whereas the truth is, that they have undergone a thorough investigation, and that in the large way; and that

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a full account of them has been given to the public a number of years since.

As long ago as the year 1793, the writer of these remarks, in a *Dissertation on the Mineral Waters of Saratoga*, besides a general account of the various springs in the neighbourhood, has given a particular analysis of the water from that most admirably curious receptacle, the *Rock*. In this dissertation are mentioned the several experiments made; whence he drew the following conclusion, that this water contained as much *carbonic acid* as would, when separated in the form of *gas*, about equal its own bulk, and that in a *quart*\* of it there were also

5.2	grains of the carbonate of soda,
31.6	— of the muriate of soda,
38.0	— of the carbonate of lime,
1.7	— of the carbonate of iron.

Two years afterwards, viz. in 1795, Dr. Peter Vandervoort gave an account of the analysis of the mineral waters of Balltown, as made at the springs. In his *Treatise* the several experiments are detailed at large; from them he inferred that one *gallon* contained 100.75 *grains of carbonic acid*, which is about equal to its bulk when separated in the form of *gas*. 144 grains of the muriate of soda,  
133 — of the carbonate of lime,  
15.5 — of the carbonate of iron.

However justly the claims of our physicians might demand attention, it is not to that alone, but to the superior calls of truth, that this communication is made. Silence upon this occasion would seem to give a sanction to what it is presumed the following investigation will prove to be highly erroneous, in the account stated to be an *accurate* analysis of the Balltown waters, published under the imposing authority of a person (though his name is not mentioned) who is said to be one of the most celebrated chemists of France.

This account says that a bottle of the water, after having been transported to France, contained *three times its bulk of carbonic acid gas*: whereas, by a well directed experiment, Dr. Vandervoort could obtain but a third part of that

\* In Dr. Mease's account of these waters, published in the *Geological Account of the United States*, as extracted from this dissertation, there is made a very material error, the word *gallon* being inserted in place of *quart*: whence they would appear to contain but one fourth part as much of the mineral substances as they do actually possess.

quantity from it, and that when fresh at the fountain. This experiment, related at full length, would seem of itself to satisfy us as to the accuracy of his conclusions; but when, in addition thereto, we consider that neither *Bergman* nor *Henry* could make water, at their temperature, absorb more than about that proportion, we can no longer doubt but that the French account is greatly exaggerated, and that instead of the waters containing treble their quantity, that they have only about *equal their bulk* of carbonic acid gas fixed in their composition.

Further, the two accounts differ in respect to the state of the calcareous matter held in solution; for while the French chemist asserts that they contain a quantity of the *muriate of lime*, Dr. Vandervoort makes no mention of that as a part of their composition. To determine this point, having procured some of the Balltown water, I evaporated it to one fourth part of its original quantity, decanted and filtered the liquid, and dropped into a portion of it, a solution of the *oxalic acid*, which produced a slight effervescence; but no cloudiness or precipitation taking place, it is evident that *no muriate of lime existed in it*.

Another portion had a solution of the *carbonate of soda* added to it, which produced no evident effect. A third portion had a solution of the *carbonate of ammonia* mixed with it, without, in the least degree, affecting its transparency. Had the *muriate of magnesia* been contained in it, in any considerable quantity, it would necessarily have been precipitated by the superior attraction of the alkalies (in both instances) depriving it of the *muriatic acid* whereby it was held in solution: however, as a very small quantity of the *muriate of magnesia* might still be kept in solution by the aid of the carbonic acid discharged from the alkalies, at the instant of their union with *muriatic acid*, and as the exhaustion of my limited stock of water prevented me from making such other experiments as would fully decide this question; we are not authorized to say, to a certainty, that it does not contain any possible quantity of that salt in its composition.

Whether this water contains the *muriate of magnesia* or not, I think, that in the course of my experiment, I have clearly proved it to contain a substance which seems to have eluded the researches of both Dr. Vandervoort and the French chemist, viz. the *carbonate of magnesia*.

Hence, 1. Paper stained with the blue petals of the com-



mon iris, were changed to a green, by being immersed in the water evaporated as before mentioned.

2. Strips of the same paper, previously reddened by a very diluted nitric acid, were, by it, first gradually restored to their original blue, and then, also, became green.

3. Lime water rendered it milky, and deposited a copious precipitate.

4. Nitric acid dropped into it produced a discharge of air bubbles.

5. A solution of *potash* produced a slight turbidness in it, which, by standing, formed a permanent thick *cloud* near its surface: this afterwards was dissolved with effervescence, by the addition of a few drops of the *sulphuric acid*; and the liquid resumed its former transparency.

6. The *muriate of lime* rendered it *turbid*, and let fall a dense and apparently *heavy precipitate*.

7. The mixture of it, as before-mentioned, with the *carbonate of ammonia*, which retained its transparency, immediately became *turbid*, and let fall a *precipitate* by the addition of the *phosphate of soda*.

All these phenomena, as well as the discharge of *air bubbles* by the addition of the *oxalic acid*, in the first aforementioned experiment, are easily explainable upon the presumption of the presence of the *carbonate of magnesia*; and as they seem inexplicable upon any other principle, in my opinion, they fully establish the fact of that substance being a part of the composition of these waters.

Finally, I think we may safely conclude, that the mineral waters of Balltown hold in solution

Carbonic acid,  
Muriate of soda,  
Carbonate of lime,  
Carbonate of iron, and  
Carbonate of magnesia;

nor will any experiment yet published warrant us in concluding that they contain any thing else.

REMARKS on Dr. HUGH WILLIAMSON'S OPINIONS concerning the FASCINATION of SERPENTS, (*See Med. Rep. Hex. ii. vol. iv. p. 341:*) Communicated in a Letter to the Editors, by WILLIAM DARLINGTON, M. D. of West-Chester, Pennsylvania.

**I** OBSERVE in the fourth volume of the second Hexade of your Medical Repository, that Dr. Hugh Williamson has expressed his belief, "that serpents have the power of taking their prey by a process which has been called Fascination." The Doctor does not, indeed, attribute this faculty to any magical or supernatural influence which the serpent possesses; but ascribes it to the stupifying, or dementing effect of the *fear* which the presence of that animal creates. This explanation is certainly ingenious, and infinitely more plausible than the old obsolete stories about *charming*, which many people formerly seemed fond of believing; apparently, because the supposed process was marvellous, and totally incomprehensible.

But notwithstanding the various facts and illustrations which Dr. Williamson has advanced, I confess there are still some objections, in my mind, to the admission of his theory, which I will endeavour to state;—and, I trust, they will not be considered as the product of a cavilling disposition; but as the suggestions of one who is solicitous to arrive at the truth.

It is well known that fear, when powerfully and suddenly excited, often has the effect of depriving the subject both of his corporeal and mental faculties; so that he either becomes motionless, or his actions are directed in an irrational, or inefficient manner. But, I believe, to produce these effects in any considerable degree, it is necessary that the fear be induced suddenly, or *unexpectedly* on the mind. It must be excited by some cause which the mind has not time or ability to explain.\* The consequence of this ignorance of the cause and extent of the danger is, that the evil is magnified so as to paralyze all exertion; or operating rather less powerfully, it admits of muscular exertion, but perverts the

\* The sense of danger may also be so great as to reduce the subject to a state of desperation, and thereby cause an unconditional surrender; but this can hardly be supposed to be the case with birds who have the use of their wings, and squirrels which have it in their power to avail themselves of the secure retreat of a tree.

judgment which should direct it. I do not think those effects are produced where the mind is familiar with the evil, and has leisure to contemplate its nature. When the cause of the fear is understood, the means of averting it are generally resorted to; and the stimulus of hope, acting on the increased excitability, often produces almost incredible achievements on such occasions. Dr. Williamson has justly observed, "It is known that birds and beasts are possessed of a certain kind of knowledge, or instinct, by which they are impelled to shun their enemies. It appears also, that their knowledge of an enemy may be acquired; it may be the effect of experience." Now, it is this very truth which leads me to doubt the correctness of Dr. Williamson's explanation; for those animals which are most commonly the prey of serpents must be well aware of the hostile disposition of the latter, and from their numbers, cannot fail to be familiar with their appearance; particularly those birds "who build their nests in places where snakes abound, as the robin, swamp black-bird, and cat-bird." Neither can they be ignorant of the means with which nature has endowed them for avoiding their enemies. Daily experience must teach them the use of these. I have witnessed the familiarity of the swamp black-bird with its enemy, and also its intrepidity in defending its young, by placing a recently killed snake on the nest; when the anxious bird would attack it with its beak, and endeavour, by its gestures, cries, and pulling at the snake, to get it away. I have also seen the cat-bird pursuing a snake, as it crawled along, and picking at its tail to endeavour to drive it off. This did not look like being deranged by fear, or suffering dementation. It was a rational and courageous attempt at driving off the enemy; and it was also indicative of the confidence the bird had in its means of escape, in case the snake had retaliated, or attempted to seize it.—Where glaring and well-authenticated facts oppose each other, we must suppose that some essential circumstances attending them have passed unnoticed, and we must leave them until a better acquaintance with them shall enable us to reconcile the apparent contradictions. But it is difficult to conceive how a squirrel on a tree, or a bird on the wing, where they are both in perfect safety, can be so terrified at the sight of an *accustomed* enemy, lying at an impotent distance, as to suffer dementation, and madly rush into the jaws of destruction.

Squirrels have no greater enemies than dogs; and those



birds already mentioned have few foes more watchful and remorseless than our domestic cats; yet it is evident that when the squirrel reaches a tree, and the birds have mounted in the air, they lose their fears, and consider themselves out of all danger. Why then should they not feel equally secure from the fangs of the serpent? His gripe cannot be more certainly fatal than that of those other enemies; and when they are completely beyond the reach of both kinds, they can have no greater apprehensions from one than from the other. It is scarcely to be supposed there is any thing more terrible to a bird in the *eyes* of a serpent than in the eyes of a cat—they must be equally “dangerous and hateful.” Yet both birds and squirrels will use every exertion to escape, even when come upon unawares. I have seen dogs get so close upon these latter as to appear almost in the act of seizing them. Surely their danger must have been sufficiently imminent to produce a dementing degree of fear, if it were apt to have such effect; but I never could discover symptoms of fascination; the animals would always leap to the nearest tree as fast as possible, and when they were out of the reach of their eager pursuers, would seem to manifest a consciousness of security in their lofty retreats.

Dr. Williamson speaks of birds and squirrels being taken by serpents in situations which preclude a probability of their being there to defend their young; such as the middle of a great road, &c. Daily observation may convince us that birds often express their antipathy to an enemy whenever they see him. They do not confine their enmity to the vicinity of their nests. When an owl makes his appearance during the day, he is generally attacked, as it were by common consent, by all the feathered tribe of the neighbourhood. They appear to make it a common cause to drive him to his lurking place, and will follow him a considerable distance; yet it is not probable the half of them can feel any immediate fear for the safety of their offspring. When a snake finds himself closely invested by a number of birds, he may lie still and keep his eyes steadily fixed on them, in order to seize the one that shall be most daring in its approaches. Birds may be taken in this way without any other dementation than that which results from great anxiety to expel an enemy, and which often induces animals to rashly hazard their own safety and lives for the purpose of protecting their young. I believe the hatred of some small birds towards the enemies of their race, often leads them to attack them when

their young are not immediately in danger; but their anxiety and intrepidity are certainly much greater when the lives of their tender charges are at stake. However, I will not enlarge further on this curious subject at present, which has been so ably discussed by the learned Professor Barton; but will conclude with assurances of my high consideration and respect.

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*The DESTRUCTIVE OPERATION of FOUL AIR, TAINTED PROVISIONS, BAD WATER, and PERSONAL FILTHINESS, upon HUMAN CONSTITUTIONS; exemplified in the unparalleled Cruelty of the British to the American Captives at New-York during the Revolutionary War, on Board their Prison and Hospital Ships. By Captain ALEXANDER COFFIN, jun. one of the surviving Sufferers: In a Communication to Dr. MITCHILL, dated September 4, 1807.*

**I** SHALL furnish you with an account of the treatment that I, with other of my fellow citizens received on board the *Jersey* and *John* prison ships; those monuments of British barbarity and infamy. I shall give you nothing but a plain simple statement of facts that cannot be controverted. And I begin my narrative from the time of my leaving the South-Carolina frigate.

In June, 1782, I left the above mentioned frigate in the Havanna, on board of which ship I had long served as a midshipman, and made several trading voyages. I sailed early in September from Baltimore for the Havanna, in a fleet of about forty sail, most of which were captured, and we among the rest, by the British frigate *Ceres*, Captain Hawkins, a man in every sense of the word a perfect brute. Although our commander, Captain Hughes, was a very gentlemanly man, he was treated in the most shameful and abusive manner by said Hawkins, and ordered below to mess with the petty officers. Our officers were put in the cable-tier with the crew, and a guard placed at the hatchway to prevent more than two going on deck at a time, and that only for the necessary calls of nature. The provisions served out to us were of the very worst kind, and very short allowance even of that. They frequently gave us pea-soup, that is, pea-water, for the pease and the soup, all but about a gallon or two, were taken out for the ship's company, and the

coppers filled up with water, and just warmed and stirred together, and brought down to us in a strap-tub. And, Sir, I might have defied any person on earth, possessing the most acute olfactory powers, and the most refined taste, to decide, either by one or the other, or both of those senses, whether it was pease and water, slush and water, or swill. After living and being treated in this way, subject to every insult and abuse for ten or twelve days, we fell in with the Champion British twenty gun ship, which was bound to New-York to refit, and were all sent on board of her. The Captain was a true seaman and a gentleman; and our treatment was so different from what we had experienced on board the *Ceres*, that it was like being removed from purgatory to paradise. His name, I think, was Edwards. We arrived about the beginning of October at New-York, and were immediately sent on board the prison ship in a small schooner called, ironically enough, the *Relief*, commanded by one Gardner, an Irishman. This schooner *Relief* plied between the prison ship and New-York, and carried the water and provisions from the city to the ship. In fact, the said schooner might emphatically be termed the *Relief*, for the execrable water and provisions she carried *relieved* many of my brave but unfortunate countrymen *by death*, from the misery and savage treatment they daily endured. Before I go on to relate the treatment we experienced on board the *Fersey*, I will make one remark, and that is, that if you were to rake the infernal regions, I doubt whether you could find such another set of dæmons as the officers and men who had charge of the old *Fersey* prison ship. And, Sir, I shall not be surprised if you, possessing those finer feelings which I believe are interwoven in the composition of man, and which are not totally torn from the *piece*, till, by a long and obstinate perseverance in the meanest, the basest, and cruelest of all human arts, a man becomes lost to every sense of honour, of justice, of humanity, and common honesty;—I shall not be surprised, I say, if you, possessing those finer feelings, should doubt whether men could be so lost to their sacred obligations to their God, and the moral ties which ought to bind them to their duty toward their fellow men, as those men were, who had the charge, and also those who had any agency in the affairs of the *Fersey* prison-ship. *On my arrival on board the old Fersey, I found there about eleven hundred prisoners; many of them had been there from three to six months, but few lived over that time if they did not*



get away by some means or other. They were generally in the most deplorable situation, mere walking skeletons, without money, and scarcely clothes to cover their nakedness, and overrun with lice from head to foot. The provisions, Sir, that were served out to us was not more than four or five ounces of meat, and about as much bread, all condemned provisions from their ships of war, which no doubt were supplied with new in their stead, and the new in all probability charged by the commissaries to the Jersey. They, however, know best about that; and however secure they may now feel, they will have to render an account of that business to a Judge who cannot be deceived. This fact, however, I can safely aver, that both the times that I was confined on board the prison-ship, there never were provisions served out to the prisoners that would have been eatable by men that were not literally in a starving situation. The water that we were forced to use was carried from this city; and I positively assert, that I never, after having followed the sea thirty years, had on board of any ship, (and I have been three years on some of my voyages) water so bad as that we were obliged to use on board the old Jersey; when there was, as it were to tantalize us, as fine water, not more than three cables length from us, at the mill in the Wallabout, as was perhaps ever drank.

There were hogs kept in pens on the gun-deck by the officers of the prison-ship for their own use; and I have seen the prisoners watch an opportunity, and with a tin pot steal the bran from the hogs' trough, and go into the galley, and when they could get an opportunity, boil it on the fire, and eat it as you, Sir, would eat of good soup when hungry. This I have seen more than once, and there are those now living beside me who can bear testimony to the same fact. There are many other facts equally abominable that I could mention, but the very thought of those things brings to my recollection scenes the most distressing. When I reflect how many hundreds of my brave and intrepid brother-seamen and countrymen I have seen in all the bloom of health, brought on board of that ship, and in a few days numbered with the dead, in consequence of the savage treatment they there received; I can but adore my Creator that he suffered me to escape; but I did not escape, Sir, without being brought to the very verge of the grave. This was the second time I was on board, which I shall mention more particularly hereafter. Those of us who had money fared much better than those who had none. I had made out to save, when taken, about

twenty dollars, and with that I could buy from the bumboats that were permitted to come along side, bread, fruit, &c. but, Sir, those bumboatmen were of the same kidney with the officers of the *Fersey*; we got nothing from them without paying through the nose for it, and I soon found the bottom of my purse; after which I fared no better than the rest. I was, however, fortunate in another respect; for after having been there about six weeks, two of my countrymen (I am a Nantucket man) happened to come to New-York to endeavour to recover a whaling sloop that had been captured, with a whaling licence from Admiral Digby; and they found means to procure my release, passing me for a Quaker, to which I confess I had no pretensions further than my mother being a member of that respectable society. Thus, Sir, I returned to my friends fit for the newest fashion, after an absence of three years. For my whole wardrobe I carried on my back, which consisted of a jacket, shirt, and trowsers, a pair of old shoes, and a handkerchief served me for a hat, and had more than two months, for I lost my hat the day we were taken, from the main-top-gallant-yard, furling the top-gallant-sail. My clothes, I forgot to mention, were completely laced with locomotive tinsel, and moved, as if by instinct, in all directions; but as my mother was not fond of such company, she furnished me with a suit of my father's, who was absent at sea, and condemned my laced suit for the benefit of all concerned.

Being then in the prime of youth, about eighteen years of age, and naturally of a roving disposition, I could not bear the idea of being idle at home. I therefore proceeded to Providence, Rhode-Island, and shipping on board the brig *Betsy and Polly*, Captain Robert Folger, bound for Virginia and Amsterdam, we sailed from Newport early in February, 1783; and were taken five days after off the capes of Virginia, by the *Fair American* privateer, of this port, mounting sixteen sixes, and having eighty-five men, commanded by one Burton, a refugee, most of whose officers were of the same stamp. We were immediately handcuffed two and two, and ordered into the hold in the cable-tier. Having been plundered of our beds and bedding, the softest bed we had was the soft side of a water cask and the coils of a cable. The *Fair American* having been handsomely dressed by an United States vessel of one half of her force, was obliged to put into New-York, then in possession of the British enemy, to refit; and we arrived within the Hook

about the beginning of March, and were put on board a pilot boat and brought up to this city. The boat hauled along side of the Crane-wharf, where we had our irons knocked off, *the marks of which I carry to this day*; and were put on board the same schooner *Relief* mentioned in a former part of this narrative, and sent up once more to the prison-ship. It was just three months from my leaving the *old Jersey*, to my being again a prisoner on board of her; and on my return I found but very few of those whom I had left three months before; some had made their escape; some had been exchanged; *but the greater part had taken up their abode under the surface of that hill which you can see from your windows, where their bones are mouldering to dust, and mingling with mother earth; a lesson to Americans, written IN CAPITALS, ON BRITISH CRUELTY AND INJUSTICE.* I found, on my return on board the *Jersey*, more prisoners than when I left her; and she being so crowded, they were obliged to send about two hundred of us on board the *John*, a transport ship of about three hundred tons. There we were treated worse, if possible, than on board the *Jersey*; and our accommodations were infinitely worse, for the *Jersey* being an old condemned sixty-four gun ship, had two tier of ports fore and aft, air ports and large hatchways, which gave a pretty free circulation of air through the ship; whereas the *John* being a merchant ship, and with small hatchways, and no ports, and the hatches laid down every night, and no man allowed during the night to go on deck, all exonerations were of course made below; the effluvia arising from these, together with the already contaminated air occasioned by the breath of so many people so pent up together, was enough to destroy men of the most healthy and robust constitutions. All the time I was on board this ship not a prisoner eat his allowance, bad as it was, cooked, more than three or four times; but eat it raw as it came out of the barrel. These, Sir, are stubborn facts that cannot be controverted. In the middle of this ship, between decks, was raised a platform of boards about two and a half feet high, for those prisoners to sleep on who had no hammocks. On this they used frequently to sit and play at cards to pass the time. One night in particular, several of us sat to see them play till about ten o'clock, and then retired to our hammocks, and left them playing; about one A. M. we were called and told that one *Bird* was dying; we turned out and went to where he lay, and found him just expiring. Thus, at ten P. M. this young man was apparently as well



as any of us, and at one A. M. had paid the debt to nature. Many others went off in the same way. It will perhaps be said that men may die suddenly any where. True; but do they die suddenly any where from the same cause? After all these things, it is, I think, impossible for the mind to form any other conclusion than that there was a premeditated design to destroy as many Americans as they could on board of their prison ships; the treatment of the prisoners warrants the conclusion; but it is mean, base and cowardly, to endeavour to conquer an enemy by such infamous means, and truly characteristic of base and cowardly wretches. The truly brave will always treat their prisoners well. There were two or three hospital ships near the prison ships; and so soon as any of the prisoners complained of being sick, they were sent on board of one of them; and I verily believe that not one out of a hundred ever returned or recovered. I am sure I never knew but one to recover. Almost (and in fact I believe I may safely say) *every morning a large boat from each of the hospital ships went loaded with dead bodies, which were all tumbled together into a hole dug for the purpose, on the hill where the national navy-yard now is.* A singular affair happened on board of one of those hospital ships, and no less true than singular. All the prisoners that died after the boat with the load had gone ashore, were sewed up in hammocks, and left on deck till the next morning. As usual, a great number had thus been disposed of. In the morning, while employed in loading the boat, one of the seamen perceived motion in one of the hammocks, just as they were about launching it down the board placed for that purpose from the gunwale of the ship into the boat, and exclaimed, D—n my eyes, that fellow is not dead; and, if I have been rightly informed, and I believe I have, there was quite a dispute between this man and the others about it. They swore he was dead enough, and should go into the boat; he swore he should not be launched, as they termed it, and took his knife and ripped open the hammock, and behold! the man was really alive. There had been a heavy rain during the night, and as the vital functions had not totally ceased, but were merely suspended in consequence of the main spring being out of order, this seasonable moistening must have given tone and elasticity to the great spring, which must have communicated to the lesser ones, and put the whole machinery again in motion. You know better about these things than I do, and can better judge of the cause

of the re-animation of this man from the circumstances mentioned. He was a native of Rhode-Island; his name was Gavot. He went to Rhode-Island in the same flag of truce with me about a month afterwards. I felt extremely ill, but made out to keep about till I got home (my parents then lived on the island of Nantucket); was then taken down, and lay in my bed six weeks in the most deplorable situation; my body was swelled to a great degree, and my legs were as big round as my body now is, and affected with the most excruciating pains. What my disorder was I will not pretend to say; but Dr. Tupper, quite an eminent physician, and a noted tory, who attended me, declared to my mother that he knew of nothing that would operate in the manner that my disorder did but poison. For the truth of this I refer to my father and brothers, and to Mr. Henry Coffin, father to Captain Peter Coffin of the Manchester Packet of this port.

Thus, Sir, in some haste, without much attention to order or diction, I have given you part of the history of my life and sufferings; but I endeavoured to bear them as became an American. And I must mention, before I close, to the everlasting honour of those unfortunate Americans who were on board the Jersey prison-ship, that notwithstanding the savage treatment they received, and death staring them in the face, every attempt (which was very frequent) that the British made to persuade them to enter on board their ships of war or in their army, was treated with the utmost contempt; and I never knew, while I was on board, but one instance of defection, and that person was hooted at and abused by the prisoners till the boat was out of hearing. The patriotism in preferring such treatment, and even death in its most frightful shapes, to the serving the British, and fighting against their own country, has seldom been equalled, certainly never excelled. And if there be no monument raised with hands to commemorate the virtue of those men, it is stamped in capitals on the heart of every American acquainted with their merit and sufferings, and will there remain so long as the blood flows from its fountain.

*CASE of an extraordinary SWELLING of the ABDOMEN, which terminated fatally; with an Account of the Appearances on Dissection: Communicated by Dr. WILLIAM W. MINER, to Dr. MILLER.*

ON the first of August, 1805, I was requested by Mr. Sarles, of Pound-ridge, West-Chester county, to visit his wife, who was about forty years of age, had borne children, and had been in general healthy. I found her labouring under an irregular remitting fever, attended with nausea at stomach, and pain in the head. It being hinted to me, by a sister of hers, that she believed her in the first months of pregnancy, I took the liberty of inquiring of the patient concerning it. She said she had been regular in her menstruation, and had no symptoms of pregnancy, save a little increase of the size of her abdomen, which she attributed to being more fleshy than usual, and which had been increasing for several months.

After emptying the stomach with a gentle emetic, the usual medicines for arresting the progress of fever were given, with but little effect. In about two weeks, the fever gradually subsided. At this time I observed a more copious secretion and discharge of saliva than usual; the size of her abdomen began sensibly to increase, and I became strongly impressed with the idea of her being pregnant. This I again mentioned to her; but found her as firmly convinced of the contrary as before. Not being satisfied, I thought it best to leave her without any active medicines until I should be able to form a more definite opinion of her case.

After about two weeks, I again visited her, found her abdomen much increased in size, and could sensibly feel the fluctuation of a fluid within. In this view of her case, cathartic and diuretic medicines were freely given, without sensibly lessening her size; nor had emetics any better effect, otherwise than for a short time relieving a laborious respiration which at this time had taken place, and which showed a disposition to return again in a few days, and require a repetition.

Disappointed in the anticipated success with the usual medicines for the cure of ascites, I began to despair of relief otherwise than by the operation of paracentesis. Being young, and feeling a considerable responsibility, I called on Dr. Sanford, with whose ability for investigation and dex-



terity in performing surgical operations I was well acquainted, and requested him to visit the patient with me. On examination we agreed that the operation of paracentesis was only to be depended on. As she was considerably debilitated by the active medicines she had before taken, we thought it best to put her on a course of chalybeates a few days, in order that they might have a more ready effect after the operation. In the course of a week, Dr. Sanford, with the assistance of myself, drew off twenty-five pints of a fluid, in colour and consistence resembling milk in that agitated state when forming butter, and interspersed with a very large number of hairs from one to six inches long. The fluid was without fœtor or any purulent appearance: we were often obliged to introduce a probe to clear the canula of obstructions formed by these butyraceous particles, which, with the addition of hairs, sometimes completely choaked it. The matter last drawn was of a much thicker consistence; this we kept separate, and exposing it to a cool air, the most of it formed into a cake resembling tallow; of this, when exposed to a moderate heat, about one third evaporated, and the remainder appeared like oil, and was inflammable.

The discovery of hairs and other appearances, impressed the idea of an extra-uterine fœtus, and led us to what little examination was at that time practicable. We found there was a considerable quantity of this thickened matter still remaining; but were not able to satisfy ourselves as to the presence of a fœtus. We conceived it best, in this state of uncertainty, to treat the patient as though nothing save common ascites had taken place, and carefully to watch her symptoms.

In the course of a few days she was able to leave her room, and being a person of more than ordinary spirits, was sanguine in her expectations of soon being in good health. We hinted to her the possibility of a fœtus in the cavity of the abdomen out of its usual place; but she was strongly convinced this could not be the case.

In the course of three weeks she again filled, and we found it necessary to repeat the operation, to which she readily consented. We made use of a larger trocar than before, with the intent of drawing off more of the thickened matter, and giving a better chance for examination. The quantity drawn at this time was greater than at first. I think I am within bounds when I estimate it at thirty pints; and a much greater proportion of it was of the thickened matter

than at first. The presence of hairs and other appearances were similar to those of the first operation. She bore it extremely well, and we were able to remove the bandage immediately after, and make all necessary examination. We were somewhat disappointed in not as readily finding a morbid substance as we expected; yet there seemed to be, on close pressure, something unusual on the right side of the linea alba, in the anterior part of the abdomen, but much smaller than we expected. This we supposed, from the circumstances before mentioned, to be either an imperfectly formed, or a partly decayed *fœtus*. The patient's total disbelief, and our uncertainty of its nature, led us to put her upon a mild tonic and antiseptic treatment, and wait to see how far nature would be able to throw off this preternatural substance which we supposed to exist.

She was able to leave her room as speedily as after the first operation. The fluid, however, soon began to collect again, and she increased as rapidly in size, until she had accumulated about two thirds as much as at the last operation, when she observed a small discharge from the place where the trocar was introduced. Pleased with the idea of a drain of this kind, she made pressure, and a considerable quantity was discharged; by which means, together with the assistance of a number of small orifices opening around the one first formed, she was enabled to keep a drain sufficient to prevent inconvenience for about eighteen months; during which time she enjoyed tolerable health, so as to be able to attend to her domestic employment, to ride on horseback, and take any exercise common to her when in health. At, or near the expiration of the above mentioned time, the orifices which had afforded a drain closed, and she again began to fill, so that the size of the abdomen became troublesome. Being a person of more than ordinary resolution for her sex, she attempted to make an artificial one with a large needle, which she effected; by which means she drew off a very considerable quantity of the contained fluid, resembling the former evacuations. She had not, however, the precaution to make use of the bandage, as at the former operations; and, from the relaxed state of the muscles of the abdomen, we may suppose the admission of air. It may not be improper to observe, that in performing the operation of paracentesis, the perforation was made in the usual place, the point lying at nearly an equal distance between the umbilicus and the centre of the spine of the ilium. Imme-

diately after she had made this perforation with the needle, the discharge became very fetid, and, in a short time, her other excretions were peculiarly so, particularly that from the lungs: the quantity from them was very considerable, and the most offensive I ever noticed.

At this stage, which was in August last, I saw her; she then was very much emaciated, was unable to turn in bed, or to keep any aliment on her stomach; the food taken would immediately be ejected with a peculiar unpleasant fetid matter, almost intolerable to herself.

She died, I was informed, a few days after I saw her.

The following account of the appearances I was politely favoured with by Dr. Sackett, one of the physicians who assisted at her dissection:

“On opening the abdomen, a membranous sac made its appearance, adhering firmly to the peritoneum, which sac being divided, its contents were similar to that which was discharged when the operation of paracentesis was performed by yourself and Dr. Sanford. This sac adhered to the left side, directly over the place perforated by the trocar, and contained about one quart or more of a white fatty or tallow-like substance, of nearly the consistence of lard at this season of the year, and intermixed with a considerable quantity of hair, some of six inches long, and likewise a number of bunches of hair matted together, which at first gave the appearance of the round scalp; yet no bone or flesh was attached to any of them. The whole quantity of hair I should suppose was as much as any child of six months old would have on its head. Adhering to one side of this sac was a dark-coloured bone, of rather a spongy texture, about half the size of the thumb: also within this tallow-like substance was a perfectly white bone, about an inch and a half or two inches long, and the fourth of an inch broad. The abdominal viscera generally had their natural appearances; the ovaria, however, appeared somewhat shrivelled, and the omentum was completely wasted and gone.”



REMARKS on the INFLUENZA, as it appeared on Block-Island,  
in the Year 1807: Communicated to the Editors by Dr.  
AARON C. WILLEY.

THE 42d number of the Medical Repository has been received. In noting the "remarkable atmospheric constitution of the summer and autumn of 1807," you observe that the *influenza* commenced in New-York "the latter part of July," and that the disease appears to have originated in that city, extending, from thence, "in the eastern, northern, western, and south-western directions." I have to inform you that this complaint made its appearance here as early as February, but in so mild a form that it was nothing thought of. In March three cases only occurred which required medical assistance; but in April it became more violent, and sometimes assumed an alarming aspect.

The milder forms put on the appearance of common *colds*, such as hoarseness, sneezing, cough, soreness and stinging of the throat, and discharge of mucus from the nose. But the more violent generally commenced with chills, alternating with flushes of heat, and great pain in various parts of the system, as the head, side, breast, bowels, &c. Some patients were costive, others loose. Some were affected with puking. One case resembled a phrenitis; some resembled pneumonia, and others rheumatism. Many were affected with vitiated taste.

The disorder was most severe with children. In them was generally great oppression and rattling in the lungs; the tongue moist, and frequently covered with a white fur. The pulse was various.

In one instance, a girl of four years and a half, it proved fatal. This case was attended with costiveness, subsultus tendinum, weak fluttering pulse, short hurried respiration, and constant moaning. There were no signs of much pain; the tongue was moist and clean.

As warm weather advanced, the disease in some measure gradually disappeared; but during the last days of August, it returned and became as prevalent as ever. It now, for the most part, began with pain in the eyes, head, posterior part of the neck, back and bowels, with lassitude and soreness of the flesh, soreness of the throat and chest, cough and expectoration, increased secretion of nasal mucus, and many times febrile symptoms. The general observation of pa-

tients was, that their feelings resembled those of the yellow fever in 1801. In some cases I found a preternatural slowness of the pulse. Some cases were obstinate and serious, but in general they readily yielded to medicine. Relapses were frequent.

A collection of facts relative to this complaint, embracing its extent, time of appearance, and various phenomena, would form an interesting and useful work in medical history. If something of this kind has not already been undertaken, I would earnestly recommend it to the attention of those whose situation affords them opportunity to obtain the necessary information.

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 REVIEW.
 

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ART. 1. *Memoirs of the American Academy of Arts and Sciences. Vol. ii. Part 2. 4to. pp. 168. Charlestown. Etheridge. 1804.*

ALTHOUGH this publication of one of the most respectable institutions in our nation, came forth about three years ago, yet so slowly do works of this kind travel from city to city, that we never until lately procured a sight of it. The difficulty of intercourse between one part of our nation and another, surpasses, as we have had repeated cause to remark before, any thing we experience in respect to the British islands, and, we might add, some other parts of Europe. But we hope that the time is not far distant when scientific and commercial intelligence will travel with equal rapidity from one region of North-America to another.

Massachusetts was distinguished at an early period of its settlement for its care of literature. And the cause of learning was aided by the establishment of a college in 1638. This ancient and excellent institution was guarded by a special provision contained in the fifth chapter of the second section of the political constitution of the commonwealth. In 1780 a number of gentlemen were incorporated for the purpose of cultivating the sciences and useful arts, and were called the American Academy. Their first volume of transactions was published in 1785. The first part of their second volume was offered to the world in 1793. The second part, which is now before us, and which completes the second volume, came out, as was observed, in 1804.

The materials composing the publication now immediately before us, are divided into three classes; 1. The *astronomical and mathematical*; 2. The *physical*; and, 3. The *medical*.

The first memoir is by Mr. NATHANIEL BOWDITCH, on a new method of working a lunar observation, by a rule too long for us to insert; but of which the author gives an exemplification and demonstration. This he considers an improvement upon Shepard's, Lyon's, Witchel's, Dunthorne's and Crosswell's methods.



Mr. PARSON's problem follows. It is this: "Having the times when a circumpolar star passed the thread of a telescope above and below the pole, to determine the warmth of the telescope, and the times when the star passed the meridian." In the solution of this problem the author has shown that great taste and proficiency in natural science are compatible with high distinction in the profession of the law.

In the next piece, Mr. JAMES WINTHROP endeavours to prove, from an eclipse of the moon seen at Jerusalem, not long before the death of Herod, and mentioned by the historian Josephus, that the common Christian æra is, with exception too trifling for objection, the true æra.

Next comes a description of Mr. BENJAMIN DEARBORN's *improvement in the steelyard for ascertaining the weight of bodies*. This consists in placing the centre of motion above the centre of gravity, and in bringing the points of suspension upon a line with the centre of motion; whereby the beam vibrates, either with or without the article weighed, like a scalebeam, if balanced by equal weight of the ends. This construction of the steelyard has been in extensive use for years, and in an easy and economical way helps to do right between man and his neighbour.

We merely mention Mr. ELIZUR WRIGHT's *ingenious methods of finding the area of a field arithmetically*; and of doing the same by east and west areas. Nor do we more in relation to Mr. GEORGE BARON's *objections to Mr. Winthrop's essay upon the duplication of a cube*, published in the first part of this volume. Mr. JOSEPH POPE's *description of a planetarium, or machine representing the solar system*, constructed by himself, impresses the reader with a very favourable opinion of the accuracy of that artist, and of the useful tendency of his labours.

The papers of the physical class are next to be mentioned. Mr. WILLIAM D. PECK has given figures and descriptions of four fishes, which he believes to be, 1. *A species of Ophidium*, or snake-fish; 2. *Of Stromateus*; 3. *Of the Blenny*; and, 4. *Of the Carp or Cyprinus*, found on the coast of Massachusetts. Of these, No. 2 is frequent during the summer in the New-York market, being taken plentifully in seines. It is tolerably good to eat.

Dr. Holyoke and President M'Kean of Bowdoin college, have given their remarks and tables of mortality-bills. And N. Bennett, Esq. has described a waterspout which hap-

pened at Watuppa pond, in Freetown, during August, 1797. It was observed by several persons in the neighbourhood; and from the twisting of boughs, the tearing up of bushes, and the carrying of leaves and sticks into the air, in its progress, there is strong confirmation afforded of the connection between whirlwind and waterspout.

Dr. DEWITT's account of some mineral substances, collected in New-York, and sent to the cabinet of the Academy, is an instructive memoir. Among others, we observe the iron ores, the gypsums, the calcareous concretions, the samples of native salt from Onondago county, and the beautiful pebbles from lake Ontario, make a principal figure.

President WILLARD's narrative of the operation of *choak-damp*, or unvital air upon some men who descended a well dug through a stratum of black mud intermixed with roots of marsh-grass, shells, and other marine productions, thirty-three feet below the surface, at the Boston pier, affords good facts relative to such accidents; and so also does his description of the stunning and killing of several persons, &c. by lightning.

In a succeeding communication, LOAMMI BALDWIN, Esq. recommends the forming of lightning rods with rags cut at the corners by a cold chissel. This is followed by a dissertation of AARON PUTNAM, Esq. showing that he is incorrect in his opinions about the disposition and action of the electric fluid. Dr. Solomon Drown has given a recital of occurrences to prove the natural existence of phosphorus. We have, however, strong reason to believe that the pieces which his friend found scattered about the floor, were dropped by some person who had been carelessly meddling with that artificial production.

In the memoir by Dr. J. THACHER, on the art of extracting marine salt from water by solar evaporation, there are many valuable practical remarks. He relates how the salt-works at Cape-Cod were established, and grew into an interesting manufacture. This branch of business was begun at Dennis, by Mr. Sears, during the revolutionary war; and has since grown, from very small beginning, to an extensive business. While the duty of twenty cents a bushel was levied upon salt, these industrious people of Barnstable county could undersell the importers. The salt, especially that made during the cool months, was exceedingly pure. That crystallized during the extreme heats of July and August, retained a portion of the bittern, and was not so

good. The author describes the two methods of constructing the vats and exposing the water for evaporation, as contrived by the two distinguished salt-makers, Mr. Sears and Mr. Kelly. A small wind-mill was employed to pump up the water.

According to Dr. Thacher's account, three kinds of salts are obtained in these manufactories by spontaneous evaporation and crystallization. The first is common salt, or the muriate of soda, the second is the sulphate of soda, or Glauber's salt, and the third is the sulphate of magnesia, or Epsom salt. Attempts have been made to prepare magnesia, both from the bittern and bitter salt it affords. And all these operations are performed without the expense of culinary fire. The formation of such quantities of the two latter salts leads to a conclusion that the sulphuric acid is more abundant in the ocean than has been commonly supposed.

Dr. Oliver Fiske has related another case of the suspension of the animal functions without producing death. The incrustation of toads and of some other creatures in rocks and concretions of earth, is frequent enough. But it has not, that we remember, been noticed before, that the *jerboa*, or long-tailed field mouse, could be incrustated in earth, and after remaining there rolled up, as in its hybernating state, for a time unknown, be released from its cavern, and restored to vigour.

The singular inscription on the rocks near Dighton, in Massachusetts, is fully described and delineated by JAMES WINTHROP, Esq. We should very much doubt the hieroglyphical signification of these characters. They look more like the playful and rude attempts of children or illiterate persons to make marks with a pen or piece of chalk, than any thing else. And the pecking similar dots and lines on a rock may have had no more serious meaning.

The medical communications are two. The first of these is the description of the appearances discoverable on the dissection of three who died of the yellow fever in Boston during 1798, by Drs. Rand and Warren. This may be seen in our volume for that year. The other tract is in favour of the *oil of tobacco as a remedy for cancerous ulcers*, by the Rev. Z. WILLIS. A case is told of a man with a malignant sore under his right eye, who seemed to have been cured by it.

The book contains a preliminary discourse, and an appen-



dix. The former is an eulogy on General George Washington; and the latter contains the letter of Count Rumford, transferring to the Academy five thousand dollars of the United States three per cent stock, with the design of forming from its accumulating interest, premiums for the authors of the most important discovery or useful improvement on heat or light. With the acceptance of this generous donation, and a list of the offerings made to the Academy, and of its members, foreign and domestic, the publication closes.

We hope this respectable institution will persevere in its useful labours, and gratify us with another volume in less time than we have been waiting for the last.

ART. 2. *Elements of Chemistry*, by M. I. A. Chaptal. *Fourth American Edition, with great Additions and Improvements.* By James Woodhouse, M. D. Professor of Chemistry, &c. 2 vols. 8vo. Kite. Philadelphia. 1807.

AT this period of science there is no need of recommending to general attention the work on chemistry, written by the late minister of the interior in France. At the time of its publication it was perhaps the most agreeable and comprehensive summary that had appeared. And even now, the work he gave the world so many years ago, keeps its stand among the numerous compendiums, epitomes and manuals of the science which pour from the press. And as a proof of the value set upon the work by the lovers of the Hermetic Art, we need but observe, that three American editions have been sold off, and that a fourth is now demanded.

To give additional importance to the present edition, the learned and indefatigable professor of chemistry, in Pennsylvania, has added numerous notes, containing information not embraced by the original. It will be expected of us, that we notice the principal of these additions.

In the first volume, p. 75, there is an instructive table, of the various proportions of acids, water, and neutral salts, that have been employed to produce *artificial cold*. At p. 80 there is a republication of the experiments made by the editor, to show that the oxygenous gas furnished during the exposure of plants immersed under water to the sun-shine, proceeds from the decomposition of carbonic acid in the

water, and not from any secretion of pure air by the vegetable. Of these we gave an abstract in our Hex. I. vol. v. p. 228. The illustrations on carbone, at p. 88—89, and on soda, at p. 134—135, are worthy of perusal. At p. 155, the discussion concerning the gaseous oxyd of carbone is managed in such a manner, as to comprehend some of the abstruse points of dispute between the Parisian chemists and their phlogistic opponents, as contained at great length in the six first volumes of our work. The remarks on the preparation of Glauber's salt, in p. 163, are worthy the notice of practical men. Dr. W. relates, at considerable length, p. 178—183, the extraordinary effects of the nitrous oxyd, from numerous trials made by himself. To the species of earths described in the author's text, he has added, in p. 214, 218, the characters of *strontites*, *yttria*, *glucina*, *zirconia*, and *agustina*, the other peculiar bodies of that order which more recent experiments have brought to light. In p. 299—304, is inserted the experimental inquiry into the nature of the celebrated natural wall in North-Carolina, which is determined thereby to be basaltic. Our readers will recollect that the discussion at large is contained in our former volumes, Hex. I. vol. ii. p. 257, third edition, in vol. v. p. 21, in vol. v. p. 467, and in Hex. II. vol. i. p. 26.

Among the materials added to the second volume of the work before us, we notice the ingenious method discovered by the editor for refining camphor, by separating it from the foreign materials with which it is mingled in its crude state, p. 234—237. The observations on the preparation of elastic gum, and the extraction of it from the milky juices of many native plants of North-America, p. 251—352, are worthy of being mentioned, as recited in Hex. II. vol. i. p. 203; so are also the experiments and observations on mineral coal, particularly that which is found near the sources of the Lehigh, in Northampton county, (Pennsylvania) p. 323—325.—Nor ought we to omit mentioning that this edition is embellished with two prints of the editor's economical apparatus for performing the chemical experiments in a cheap and easy manner, with ample directions for the construction and employment of its different parts.

Such are the principal materials with which this already popular work is enriched: A work, of which we shall just observe, that it comprehends the science under the five following divisions: 1. On CHEMICAL PRINCIPLES, the lead-

ing ELEMENTARY SUBSTANCES, and the formation of acids, alkalies, and neutral salts. 2. On LITHOLOGY, or the chemical history of earths and stones. 4. METALLURGY, or an account of the different kinds of ores, and the metals they contain. 4. The constitution and analysis of VEGETABLE SUBSTANCES; and, 5. The composition and dissolution of ANIMAL BODIES and their parts.

To gratify our readers with a specimen of Dr. W.'s editorial talent, we present our readers with his note on nitrate of ammoniac and nitrous oxyd.

*Nitrate of Ammoniac.*

" The best method of preparing this salt, is by the direct combination of the nitric acid, and the carbonate of ammoniac.

" The nitrate of ammoniac varies very much in appearance, according to the temperature at which its solution is evaporated. If a heat of about  $70^{\circ}$  or  $80^{\circ}$ , and by slow cooling, it is obtained in six-sided prisms, terminated by six-sided pyramids. When the solution is evaporated at  $212^{\circ}$ , the crystals are channelled, and have a fibrous texture, or they are formed of long soft elastic threads. When dried in a heat of about  $300^{\circ}$ , it assumes the form of a white compact mass.

" It has an acrid, bitter and disagreeable taste.

" It is soluble in two parts of water, at a temperature of  $60^{\circ}$  of Fahrenheit.

" It dissolves in half its weight of boiling water.

" It deliquesces when exposed to the action of atmospheric air.

" When the salt, in the state of prismatic crystals, is heated, it becomes fluid, at a temperature below  $300^{\circ}$ , between  $360^{\circ}$  and  $400^{\circ}$ , it boils without decomposition, but when heated to  $450$  it is gradually decomposed, without losing its water of crystallization.

" The compact nitrate of ammoniac undergoes no change, until it is exposed to a temperature higher than  $260^{\circ}$ . Between  $275^{\circ}$  and  $300^{\circ}$ , it sublimes slowly without decomposition. At  $320^{\circ}$ , it melts and is slowly decomposed.

" When the salt undergoes decomposition at a temperature not exceeding  $500^{\circ}$ , it is converted into the dephlogisticated nitrous air of Dr. Priestley, the gaseous oxyde of azote of the Dutch chemists, and the nitrous oxyde of Mr. Davy.



" When it is exposed to heat above  $600^{\circ}$ , it explodes in a violent manner, and is converted into nitrous acid, nitrous gas water, and azotic gas; hence it is called *nitrum flammans*.

" When the nitrous oxyde is formed from the nitrate of ammoniac, part of the oxygene of the nitric acid, of the nitrate of ammoniac, unites with the hydrogen of the ammoniac, and forms water; another part of the oxygene of the acid unites to the azote of the ammoniac, and makes the nitrous oxyde.

" This oxyde is always an artificial production.

" A candle burns with a beautiful blue flame in this gas, and before its extinction the white inner flame becomes surrounded with a blue one.

" This double flame arises from some of the vapour of the nitrous acid being mixed with the nitrous oxyde, for it can be formed by plunging a taper in atmospheric air containing nitrous acid vapour, or in a mixture of nitrous oxyde and azotic gas, through which the nitrous acid vapour is made to pass.

" Phosphorus introduced into a jar of nitrous oxyde in a state of active inflammation, burns in the same manner as in oxygene gas.

" Sulphur introduced into it, burning with a feeble blue flame, is immediately extinguished, but when in a state of vivid inflammation, it burns with a rose-coloured flame.

" Iron wire placed in it with a small piece of wood fixed to it, when inflamed, burns in a vehement manner, and throws out bright scintillating sparks.

" Nitrous oxyde is readily absorbed by water, and may be expelled from it by means of heat.

" It has no acid or alkaline properties, as it does not change blue vegetable colours. It has a sweet taste. The alkalis have no action upon it. It explodes with a loud noise, when mixed with hydrogen gas. It is fatal to animal life.

" Nitrous oxyde, when taken into the lungs, by breathing out and into a varnished silk bag or large bladder, in a dose of from four to six quarts, causes the most extraordinary effects. On some persons it produces the most agreeable sensations, and immoderate fits of laughter. It affects others with vertigo, dizziness, temporary madness, fainting, &c. When Mr. Humphrey Davy, to whom we are indebted for ascertaining the effects of this wonderful agent, breathed

seven quarts of it, muscular motions were produced to a certain extent; sometimes he manifested his pleasure by stamping or laughing. At another time, having breathed nine quarts of the air, he first lost the perception of external things, and a vivid and intense recollection of some former experiments passed through his mind, so that he called out, "WHAT AN AMAZING CONCATENATION OF IDEAS!"

"When he breathed twenty quarts, a thrilling sensation from the chest to the extremities was almost immediately produced. By degrees the pleasurable sensations were increased; he lost all connection with external things, trains of vivid visible images passed through his mind, and were connected with words in such a manner, as to produce perceptions perfectly novel. He supposed that he existed in a world of newly connected and newly modified ideas. He theorized and imagined that he made discoveries. Upon waking from this semi-delirious trance, indignation and pride were the first feelings produced, by the sight of the persons about him. His emotions were enthusiastic and sublime, and he exclaimed with a loud voice, "NOTHING EXISTS BUT THOUGHTS! THE UNIVERSE IS COMPOSED OF IMPRESSIONS, IDEAS, PLEASURES, AND PAINS." After this he expressed his pleasure by laughing and stamping.

"Mr. Tobin having taken two quarts into his lungs, laughed, staggered, threw himself into a variety of theatrical attitudes, traversed the laboratory with a quick step, and his mind was elevated to a most sublime height.

"Mr. Wedgwood had six quarts administered to him, and as soon as he had made two or three inspirations, he felt himself much affected, and his respiration hurried, which effect increased rapidly, until he became, as it were, in-tranced, when he threw the bag from him, and kept breathing on furiously with an open mouth, and holding his nose with his hand, having no power to take it away, although aware of the ridiculousness of his situation. He had a strong inclination to make antic motions with his hand and feet. When the first strong sensations went off, he felt, as it were, lighter than the atmosphere, and as if he was going to mount to the top of the room.

"Mr. George Burnet felt a general swell of sensations, vivid, strong, and inconceivably pleasurable, which mounted so fast, that had he not desisted to breathe the gas, he would have fainted from ecstasy.

"Southey, the poet, upon breathing the gas, exclaimed, 'The air of the highest possible of all heavens, must consist of this gas.'

"In the year 1802, the editor of this work attempted to prepare a large quantity of the nitrous oxide, from the nitrate of ammoniac, made by decomposing the nitrate of pot-ash by the sulphate of ammoniac, and by adding the nitric acid to sal ammoniac.

"A great number of gentlemen, belonging to his chemical class, who intended to breathe the gas, were present in the morning, when he was filling his air holders with it, and saw all the operations going forwards.

"In the afternoon, being at his laboratory at two o'clock, the air was examined, and found to be extremely impure, having made use of too great a degree of heat in generating it.

"Expecting the gentlemen at three o'clock, the impure air was thrown away, and the air holders filled with atmospheric air.

"This air was breathed by a variety of persons, under the impression that it was the nitrous oxide, and the greater part of them were affected with quickness of pulse, dizziness, vertigo, tinnitus aurium, difficulty of breathing, anxiety about the breast, &c.

"The following is a letter received from one of the gentlemen:

'The nitrous oxide produced no sensible effect, for perhaps the space of a minute, after I began to breathe it. Soon after I was affected with a tinnitus aurium, which affected the sense of hearing, in the same manner as water, in a state immediately preceding ebullition does. At the same time, I had a sensation similar to that produced by swinging; afterwards a difficulty of breathing gradually came on, which at length necessitated me to discontinue the respiration of the air. The difficulty of breathing, and the tinnitus then soon subsided. But the peculiar sensation in my breast continued some time longer, which was succeeded by slight nausea, which continued six or eight hours.'

"A short account of the effects of the atmospheric air, was sent to Dr. Mitchill, who published it in the Medical Repository of New-York, vol. v. p. 461.

"For many years after this, not seeing the experiments of Mr. Humphrey Davy, on this subject, confirmed by other chemists, I believed that the influence of the ima-



gination caused all the effects ascribed to the nitrous oxide.

" In the winter of 1806, having prepared a quantity of this gas, extremely pure, from the nitrate of ammoniac, made by the direct combination of the nitric acid and the carbonate of ammoniac, two quarts of it were administered to Mr. Henry Latrobe, fourteen years of age, who breathed it in a very fair manner. In one minute he was affected in a most violent manner. He walked up and down the laboratory with a quick step, elevating one leg after the other, and then suddenly throwing it down on the ground. He laughed immoderately and convulsively, the tears rolled down his cheeks in large drops, and he frothed at the mouth.

" Witnessing these effects, and knowing the impossibility of counterfeiting such symptoms, I immediately resolved to try the effects of the gas on other persons, in doses of two and four quarts.

" Mr. J. D. Maclean, upon breathing the gas, fainted away, and recovered in about three minutes.

" Mr. George Thornton looked wild, jumped over a high bench, and the effect suddenly ceased. Mr. Martin raised his hands above his head, and jumped about the room.

" Mr. Pope placed his arms a kimbo, and surveyed the audience with great contempt.

" Mr. William Barton was very much deranged; he ran about the laboratory, bellowed like a mad bull, and struck at every person near him. A week after, the gas being administered to him a second time, produced the same effect.

" He felt a great increase of strength after recovering from the effects of the air.

" It was with much difficulty I could separate the mouth-piece of the bladder from his mouth.

" Mr. N. S. Allison fainted, but recovered in a few minutes. Upon breathing the air, seven days afterwards, the same effect was produced.

" Mr. Thomas Prioleau exclaimed, '*I am in heaven, ye gods, stars, comets, meteors, Mahomet's a jackass, the elysian fields are hell compared with this,*' and then fainted.

" Mr. Robert Patterson was affected with violent laughter.

" Mr. Samuel Jackson in the same manner.

" Mr. Peter Curtis laughed very heartily.

" A week after, having a very large air holder, filled

with atmospheric air, along side of two others, containing nitrous oxide, he breathed the atmospheric air, but no effect was produced.

" Mr. Gerard Snowden fainted, but soon recovered.

" Mr. William Handy laughed and fainted.

" Mr. William Tyler fainted, and recovered in three minutes. Seven days afterwards, trying the air a second time, the same effect was produced.

" Mr. Cornelius Dupont laughed and fainted. Baron John de Bretton experienced pleasurable sensations.

" Mr. Benjamin Kugler laughed. Upon giving him atmospheric air a week after this, he immediately knew the difference in the gases, and it produced no effect.

" Mr. Thomas Lewis was very much enraged. He caught me by the collar, pulled at my cravat, tore my coat, run about the room, and struck at every person near him.

" Mr. Evans breathed atmospheric air.

" It produced no effect.

" Mr. Wharton, after fairly breathing four quarts of the gas, was beginning to be affected. He called out in a rapid manner, '*Give me another bottle, give me another bottle.*'

" The nitrous oxide was tried by fifteen other persons, without producing any effect. Some of them took it into their lungs very fairly, others were frightened, and mixed it with the air of the atmosphere.

" I am now convinced the gas produces all the effects ascribed to it, by the justly celebrated Mr. Davy; and I am happy in having this opportunity of confirming his experiments.

" The following letter on this subject, was received from professor Silliman, of Yale College, Connecticut.

' I have lately given the nitrous oxide a full and fair trial, and the result has been such as to confirm, in the most satisfactory manner, Mr. Davy's account of the effects of this wonderful agent.

' In my own case, after only two inspirations, I felt a momentary loss of distinct thought, then sensations of such pure and vehement delight, tingling through every fibre of my frame, to the extremities of my toes and fingers, that after failing in an attempt to express to my friends by articulate words the pleasure I felt, I demonstrated it by leaping up and down, stamping on the floor, and loud convulsive laughter.

' One of our gravest citizens, a man of thirty-eight or

forty years of age, was made to caper about like a monkey, with all the extravagant gestures of a tragedian, and the grimaces of a Harlequin. Some effect was produced on all who breathed the gas, and the full effect was manifested, in six instances out of eight. One of these took place before the class, and many spectators, and was so marked as to banish every doubt. Six or eight quarts breathed into and out of a silk bag, will always, I believe, produce the effect.'

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ART. 3. *A Compendium of the Theory and Practice of Midwifery, containing practical Instructions for the Management of Women during Pregnancy, in Labour, and in Child-bed; calculated to correct the Errors and to improve the Practice of Midwives; as well as to serve as an Introduction to the Study of this Art, for Students and young Practitioners.* By Samuel Bard, M. D. 12mo. pp. 239. New-York. Collins and Perkins. 1808.

IN our last number we announced this work as being then in the press, and nearly ready for publication. The appearance of it since has completely justified the expectations which the learning, experience and industry of the author had led us to entertain. To his own observations, collected in the course of long and extensive practice, he has added whatever is to be found, suitable to the design of his work, in the ablest and most approved writers on this subject. All this he has arranged, condensed, and illustrated in a manner which reflects equal credit on his diligence and judgment.

Considering the plan and object of the work, we conceive Dr. Bard has done right to exclude the subject of instrumental delivery. His injunctions, which are so strongly inculcated and so frequently repeated, to wait patiently for the efforts of nature, to rely in all ordinary cases on the sufficiency of them, and to avoid improper interference, are, we believe, founded in the most enlightened experience, and in the soundest judgment. Whenever the other more hazardous resources of the art become necessary, (as sometimes they certainly do) they can only be safely committed to the best informed, and the most cautious part of the profession.

As the best exposition we can offer of the objects and plan of the work, and as a specimen of the manner in which



the subject is treated, we insert the following extract from the introduction.

“ Having frequently in the course of my practice, and particularly since my residence in the country, had occasion to observe how much our midwives stand in need of instruction, and how incapable most of them are, from pecuniary circumstances, as well as from deficiency of education, to derive it from books of science, and systems of midwifery; I have thought that a concise, cheap book, containing a set of plain but correct directions for their practice in natural labours, and for the relief of such complaints, as frequently accompany pregnancy and labour, or which follow after delivery, would in the present state of this country prove an useful work. This I have attempted in the following essay, in which it has been my object to be useful, rather than to appear learned; to say nothing but what is absolutely necessary, and easily understood; and to detail such facts and observations, as have been long known, and have received the stamp of time and experience, rather than to offer new opinions.

“ In a work of this nature, all claim to originality must necessarily be relinquished, and so far from aiming at it, I confess I have not hesitated occasionally to use the language of others, where I have found it sufficiently clear and familiar for my purpose; and I hope this acknowledgment will be received, in place of frequent references and marks of quotation.

“ Thus to instruct the ignorant, in what it is confessed the learned are already sufficiently informed, appears to be an humble attempt; but it is one I have not found on the present subject altogether free from difficulty. I have endeavoured to arrange the work in such order, and to clothe my opinions in such language, as will be intelligible and instructive to the most ignorant. I have used as few technical terms as was consistent with perspicuity and decency; and such as I have thought myself compelled to introduce, I have endeavoured to explain, either in the progress of the work, or by a short glossary at the end of the volume.

“ Another difficulty has occurred from the desire to be full and explicit, and yet not to say too much. Convinced that the use of instruments, and the introduction of the hand into the womb, as too frequently employed by the unskilful, is more desperate than the most desperate case of labour left to nature; it has been my wish to avoid, as much

as was possible, even mentioning these operations: still I have thought it necessary to describe the treatment of some lingering and difficult labours, and even of some preternatural cases; in all which, although I constantly advise the midwife to call for assistance, yet (especially in the country) as what is better than her own is not always at hand; and much important time may be lost before it can be procured; the midwife ought to be instructed how to employ the interval to advantage. In attempting this, it has been found necessary to describe some operations and modes of relief, to which the common midwives of our country, from the great deficiency of their education, or rather from having had no education at all, are confessedly unequal: but is there any mode by which this objection can be removed, better than by endeavouring to spread among them the necessary information? Partial knowledge is, I confess, on many occasions, more dangerous than absolute ignorance; but does this observation apply only to the midwives? We must know in part before we can be fully informed; and I cannot help hoping, that the midwife who has read and understands this little work, will be a more useful and safe practitioner, than one who has never read this or any other. If to this argument another be added, that in proportion as the rules I have given for the conduct of natural labours are observed, the accidents and difficulties which render labour tedious and dangerous will the more seldom occur; any objections to which my work may appear liable, from the apprehension of teaching too much, will, I hope, be removed. An attempt has lately been made in this state to regulate the practice of physic, in which it seems to have been the object of the legislature, by exacting some proof of previous study and learning, to improve the knowledge of future practitioners. Would not a law to provide for the education of common midwives, and to compel them to give some proof of knowledge and ability, before they undertake the practice of their profession, be equally useful? It will not, I believe, be denied that it is equally necessary. The principles, however, upon which such a law is to be founded, should be well considered, as there is some reason to believe that there is greater safety in this branch of medicine from modest, unassuming ignorance, than from that meddling presumption which frequently accompanies a little learning.

“The practice of midwifery is a most important branch

of physic and surgery, and like all just practice in either, is founded in a knowledge of the anatomy of the parts concerned; of their structure, situation, and connections; of the manner in which they perform their functions; and of the changes, which, under different circumstances, they naturally assume, or which are brought upon them by disease. Although, therefore, it is allowed that a full and accurate account of these subjects would not be very consistent with a popular work, yet some slight description of the pelvis, and the parts concerned in pregnancy and parturition, or affected by circumstances attending those states, appears absolutely necessary, not only to explain the very few technical terms unavoidably made use of, but for the more easy comprehension of the nature of those functions, and of the several complaints connected with them. So much, therefore, being necessary, a little more has been added, with a view to render the work acceptable to students and young practitioners, as an introduction to the theory and practice of their art; and to furnish them in one small volume, and at little expense, with copies of the most useful plates, which are to be procured only by the purchase of many expensive works. This has been the principal motive for the addition of plates, which being rather sketches, than finished designs, and executed on wood, have been done at no great expense. They have been copied from the best works that could be met with, chiefly from Smellie, Hamilton, and Bell, with whom, however, some liberties have been taken to adapt them as nearly as possible to the same scale and to the same section of the body: to do which, the imagination of the draftsman has necessarily been in some measure indulged. Under such circumstances, it is impossible they can possess the accuracy of portraits; and all that has been aimed at, is to convey a clearer idea of the relative situation, proportion, and connection of the parts, than could be given in words. For this reason, many parts not necessary for the instruction of the practical midwife, have been altogether omitted. For very obvious reasons, I have seldom entered into the rationale of the conduct I recommend, but contenting myself with giving such practical directions, as will apply to most situations incident to pregnancy, labour, and child-bed; and which experience has sanctioned; have explained the reason of them only, when that explanation is not only easy to be understood, but may likewise be made the ground of further advice.



"The learned reader will, I apprehend, accuse me of a tedious tautology in many places, and I plead guilty to the charge; but as it consists chiefly in the repetition of important and necessary cautions, intended to correct inveterate errors, and more strongly to impress a better practice; no man acquainted with the ordinary practice of midwifery in this country, will, I am persuaded, think this the least useful part of the work. To such as wish for fuller information on this subject, (and all who mean to practice midwifery ought to wish it) I recommend the writings of Mr. White of Manchester, Dr. R. Bland, Dr. Denman, Mr. John Burns of Glasgow, and Baudelocque; but particularly those of Mr. White and Dr. Denman. I take pleasure in acknowledging my obligations to those two most excellent writers, to the study of whose valuable works I have been indebted for much improvement in my former practice, as well as many useful lessons which I have attempted to detail in this performance. By the writings of Bland and Burns, the student will be confirmed in many of the useful cautions and sound practice which he will learn from White and Denman; and in Baudelocque he will find a writer of extensive experience, great humanity, and one who has profited by all the learning of his day, but at the same time, one who abounds in many nice and minute distinctions, not easy to be understood but by a reader of considerable knowledge and experience: and on these are founded a variety of modes of relief, and frequent interpositions of art, which on many occasions may be dispensed with, and which may lead a young and inexperienced practitioner into error.

"It may seem singular that in this enumeration of authors, I have not mentioned *Smellie*, whose works are in the hands of almost every practitioner in this country, and more generally read than any other: but although a great improver of the art of midwifery, *Smellie* certainly was not acquainted with all the resources of nature in their full extent. Having greatly improved the instruments of his day, he has described their use with great precision; and I own I am apprehensive that many of his readers may thereby be induced to suppose them equally safe in their hands, as they appear to have been in his—and hence be led to a more frequent use of them than modern practice has found necessary or safe. I confess, not without severe regret, that towards the latter end of thirty years practice, I found much less occasion for the use of instruments than I did in the begin-

ning; and I believe we may safely conclude, that the person who, in proportion to the extent of his practice, meets with most occasions for the use of instruments, knows least of the powers of nature; and that he who boasts of his skill in their application, is a very dangerous man.

“ I mean not, however, to proscribe the interposition of art, or the use of instruments in labour. I know that on some occasions they are absolutely necessary, and have been, in skilful hands, the happy means of preserving both mother and child: but such occasions are confessedly rare; and we have the authority of the best modern authors in saying, that instruments are not found necessary once in ten times, when the cotemporaries and immediate followers of Smellie would have applied them. I have been led into these reflections from a persuasion, grounded on the best information I have been able to procure, that that dreadful, murdering instrument, the crotchet, is among us in the country too frequently applied in cases in which, if any instrument at all is necessary, the safer forceps may be used with success.

“ Let, therefore, the student of midwifery study, first, the symptoms and progress of natural labours, as they are described by White, Clarke, and Denman, whence he will learn the powers and resources of nature; and when he is fully acquainted with these, he will be enabled to form a more just opinion, when he ought to have recourse to art. And let every practitioner, when he supposes himself called upon to put in practice a remedy, by which the life of the infant is necessarily sacrificed, and that of the mother greatly endangered, reflect, that in all such cases we reason only from strong probabilities; that the resources of nature are almost infinite, and that the event frequently disappoints our expectations. No man, therefore, who has been fatigued by several days and nights careful attendance—whose sympathy for the sufferings of his patient has been greatly excited, and whose fears for her safety are increased by the fears and distresses of her friends, can be sure he commands that cool and dispassionate judgment, which alone ought to determine so intricate a question. It is his duty, therefore, to call for the council of some other, in whose experience and judgment he has confidence, whose mind is free from the embarrassments under which his own labours, and who, at all events, will share his responsibility and lessen his regrets.”

We shall be glad to see this manual, so deserving of public attention and confidence, find its way into general circulation. It appears to us to be eminently calculated to guard the young and inexperienced against the fatal errors and abuses which still too often take place in this important department of practice.

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ART. 4. *An Abridgment of Mr. Heath's Translation of BAUDELOCQUE's Midwifery, with Notes, by William P. Dewees, M. D. Lecturer on Midwifery in Philadelphia.* 8vo. pp. 685. Philadelphia. Bartram and Reynolds. 1807.

THE reputation of *Baudelocque* stands so high among all those who are considered as the most competent judges, that we shall not detain the reader by any encomium on his work. It may suffice to remark, that no practitioner of midwifery, who neglects to avail himself of the fund of instruction which is presented by this writer, can be presumed to have taken due pains to qualify himself for the arduous duties of his profession.

Dr. Dewees has undertaken and accomplished the task of reducing this voluminous writer to a cheaper and more convenient size, by a judicious abridgment. As we entirely approve the plan on which this abridgment has been conducted, we think proper to lay before the reader the following explanation and defence of it, in the words of Dr. Dewees himself, as expressed in his prefatory remarks.

"In offering an abridged edition of *Baudelocque's* midwifery to the public, I have been influenced but by the desire of extending the best system on this subject I believe this or any other country is in possession of. I have used Mr. Heath's translation of this work, as it is the only one extant; and by comparing it pretty extensively with the original, find it at least faithful, if not elegant.

The mode I have almost exclusively pursued, has been, to retain, wherever compatible with the design, either whole paragraphs, or such portions of them as best suited the object of the abridgment; where this has not been adhered to, I have condensed in as small a compass as I was capable, the meaning of the author. At other times, I have left out entire chapters, from an opinion, that they were either useless or unnecessary, to the intended form of the work; thus,



I have omitted his considerations on the use of the lever, as it is merely a critique upon a number of gentlemen's mode of using it; and though it must be acknowledged he has done this in the most masterly manner, yet it does not add a particle to the student's knowledge; I consider myself in this the more excusable, as he has given in another place the cases in which he judged it proper to employ this instrument, and directions for its application. I may urge a similar reason for the omission of the chapter on the section of the pubes. In this our author has so fully demonstrated its inutility, and so completely triumphed over its advocates, that it is now no longer considered as a resource of the art. It would have, therefore, been more than idle, to have given a description of an operation never to be performed; or even to have detailed the reasons by which he gained this victory. It may be proper, however, in this place, to state, that it has been almost exclusively the honour of Baudelocque, first to call in question the propriety of this cruel operation, and next to demonstrate, in the most satisfactory manner, its inutility, or rather insufficiency for the object proposed.

"I have made some other omissions of a minor kind, but none, I trust, to injure the work, or mislead the student; on the contrary, I am of opinion it can well bear this pruning, and all that is useful be retained. Unnecessary repetition, useless detail, and tedious minuteness, are the frequent faults of our author; these I have endeavoured to obviate.

"With a view to an extensive circulation of this truly valuable work, cheapness has been regarded; to insure this, the work is condensed into one volume, which will bring it to a moderate price.

"A number of engravings have also been omitted in this edition, as it is conceived they administer nothing to the student's information, while they very considerably augment expense.

"I have occasionally added notes, but not in sufficient numbers, I trust, to materially enhance the price of the work. They could easily, and perhaps advantageously have been extended, but powerful motives withheld me. For readers kindly disposed, they may be found enough, and for the fastidious, perhaps too many."

Notwithstanding the diffident terms in which Dr. D. here speaks of the notes occasionally added by himself, we are

disposed to consider them as constituting an important part of the work.

As a specimen of these notes, we quote the observations made on the subject of hæmorrhage, at p. 307.

“ There are few cases of disease occurring during pregnancy or labour that is so alarming in its appearance, and serious in its consequence, as Hæmorrhagy. Our author lays down, in a very judicious manner, all he knew on the subject of this disease, but was not in possession of one of the most powerful remedies yet discovered for the suppression of hæmorrhagy; I mean the *acetate of lead*. Its general certainty in this accident is now so well established, that it would be loss of time to dwell on it; we shall, therefore, without hesitation, recommend this remedy wherever the necessity exists. I have uniformly, however, made it a rule, where the pulse was tense, and the disease in its commencement, to diminish its vigour by blood-letting from the arm before its exhibition; and in employing the bleeding, I usually recommend the blood to be taken pretty suddenly away, by which means we induce a disposition to *syncope* without a great loss of blood; and if the patient be not too much weakened, to have her bowels opened by an injection. The *acetate of lead* may then be given with freedom and certainty, from three grains to ten every half hour until its object is obtained. It will perhaps surprise, when this remedy is recommended in such quantity, and in such quick succession, but I have no hesitation in declaring I have not only found it safe in such quantities, but necessary; and with respect to the frequency of its exhibition, I believe, if it does not produce the desired effect in half an hour, that that dose will not do it in a longer period. It is always to be combined with a small quantity of opium, a fourth or fifth of a grain will in general be sufficient. I have in some cases found, where opium has disagreed, joining a grain of the powdered *capsicum*, has been useful; this, however, is only to be used where the system is prostrated, from the long continuance or excess of the discharge. By employing this remedy we sometimes obtain, if nothing more, an important truce, more especially at the latter periods of pregnancy, and when the *placenta* is not attached over or very near the mouth of the *uterus*; time is given by this means to the *uterus* to dilate, and if farther exigencies require delivery, it is in a better condition for this object. In addition to this I have seen a very alarming hæmorrhagy

suppressed, by a stream of cold water let fall from a considerable height on the belly of the patient. It is important where the discharge is serious, to keep the feet and legs warm by flannels, bottles of warm water, &c. I have succeeded frequently in considerable discharges in the early months of pregnancy, by having a strong solution of the acetate thrown up the *vagina*; say a drachm to a pint of water.

"I have met with some cases where the *sugar of lead* has produced no effect when given by the mouth, and where it has produced an almost instantaneous one, when ℞j, to a gill of cold water with 3j. of *tinct. thebaic.* has been given as an enema."

The decided terms in which Dr. D. urges the free use of blood-letting in convulsions, occurring in labour or during pregnancy, cannot be too strongly recommended to the attention of the reader. We quote him as follows.

"I am much pleased with the stress our author lays upon the use of the lancet in this truly formidable disease, as I am well persuaded in nine cases out of ten in this country, it is the only remedy to be depended upon. I cannot agree with him as to the importance of the part from whence the blood is drawn, provided an equal quantity in a given time can be taken. I am persuaded this noble remedy has failed in many instances, and in some done harm, from an inattention to the time employed in drawing the blood; if the orifice be small, and the blood only trickle down, it will almost certainly do harm, by allowing the blood-vessels gradually to contract on their contents, and thus fail in diminishing their vigour; it should, therefore, be an invariable rule, to draw the blood from a large orifice, and a large vein; on this account, I have sometimes preferred the jugular, and in others have set two streams going, one from each arm.—I have no doubt but the mischievous effect of bleeding in the foot, as mentioned by our author, may be accounted for in the way we have suggested, and the relief obtained by bleeding from the arm was entirely owing to the sudden abstraction of the blood.

"With respect to the quantity drawn, I have but one rule, bleed as long as the convulsions continue frequent and powerful, and the determination to the head evident, by the swelling and lividity of the face, projection of the eyes, and almost complete suffocation. I have in more instances than one taken, with the happiest effect, an hundred ounces in a



few hours. The first bleeding especially should always be large where the case is violent and threatening: Two important objects are almost always answered in this way, first, a cessation or diminution of the convulsions, and, secondly, a relaxation of the mouth of the womb, that enables us to turn, if the disease happens just before, or at the commencement of labour.

“This remedy, like many others, must be employed promptly, if good be expected from it; it is too late, when effusion has taken place in the brain. I had, not long since, an opportunity of seeing the head of an unfortunate woman who died from this kind of convulsion. The *longitudinal sinus* of the *dura mater* was estimated to contain between two and three ounces of blood; the posterior left ventricle was filled with a bloody serum; the rest appeared healthy, as did the other parts of the brain.” See page 361.

Not only in case of convulsions, but also on many occasions of tedious and difficult labour Dr. D. is a strenuous advocate of blood-letting, in order to produce the desired relaxation; this remedy is urged in the following terms.

“Induration of the mouth of the *uterus* is not unfrequently met with, more especially with women advanced in life and in labour with their first child; but *scirrhi* I believe are rarely met with. Instead, therefore, of applying cutting instruments, we should employ extensive blood-letting first; should this not succeed, we always have the other in reserve. I believe this would rarely fail, if the bleeding be carried to sufficient extent; and I trust I am warranted in this assertion from the success I have met with where I had feared no other resource but dividing the rigid parts was left me. See *Medical Repository and Medical Museum.*” Page 572.

Our Editor very judiciously insists on a less stimulating diet, in child-bed, than that which is often allowed and supposed by Baudelocque to be inoffensive. We quote him in the following words on this subject. Page 291.

“I am convinced that the milk fever is in great measure, if not altogether, of artificial origin. It never occurs to patients who strictly follow my directions after delivery. It is the product of improper regimen. When women, who are not predisposed to fever, are kept quiet, from all stimulating drinks, from animal food and broths, who have cool and diluting drinks, as water, toast water, balm tea, &c. who have fresh air freely admitted into their chambers, who have frequent changes of clothes, who have their bowels

freely opened on the second or third day, never have this milk fever as it is termed."

Dr. D.'s plan of reducing this publication to a cheap and portable form would perhaps have been defeated by any very large additions to the body of his notes: otherwise, we are persuaded every discerning reader would join us in the regret that they are not found more frequent and copious.

Since the reduction thus effected in the extent and expense of this work, without any material diminution of its valuable contents, we conceive the practitioners of midwifery in the United States will be inexcusable in neglecting to furnish themselves with the solid and weighty instruction, which every where abounds in the pages of Baudelocque.

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## MEDICAL & PHILOSOPHICAL NEWS.

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### DOMESTIC.

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#### *Pike's Journey to explore Louisiana.*

THE government of the United States, influenced by a humane, wise, and enlightened policy, continues to adopt measures for ascertaining the value and extent of the regions it has acquired by treaty and purchase, beyond the Mississippi.

For this purpose, Capt. Pike, after his return from the voyage to the sources of that river, of which we gave an account in our Hex. II. vol. iv. p. 376, was dispatched by the President on another expedition of discovery. He was attended by a military escort of twenty-two men, and by the intelligent and enterprising Dr. Robertson, of St. Louis, who accompanied him as a volunteer, in July, 1806. The adventurers proceeded up the Missouri to the Osage River, and pursued their course along it until they arrived at the towns of that nation. They then undertook to interfere as peace-makers between the Osages and their neighbours, the Kansas tribe, between whom an exterminating war had for a considerable time been carried on. Having succeeded in this, Capt. Pike proceeded with his party from the banks of the Kansas River, where the accommodation was effected, across the country to the River Arkansa. On arriving at this great stream, the party divided, and while one section of them, commanded by Lieut. Wilkinson, descended to explore it to its junction with the Mississippi, Capt. P. himself, with the other division, ascended towards its source. From the great falls where it descends from the mountains, he made an excursion towards the source of the River Platte, and returned to another branch of the Arkansa.

This being accomplished, he travelled in a west south-westernly direction, with the expectation of finding the upper part of Red River, and of following it downward to Natchitoches and the junction with the Washita, where Mr. Dunbar had been engaged in exploring. But in this he failed.



The Red River had been described as originating in the high mountains whence the other great waters of Louisiana proceed, and running a thousand miles and more from N. W. toward S. E. On the supposition that the common opinion was correct, Capt. P. kept so far to the westward, with the intention of striking it nearer its source, that he missed it altogether, the head of the Red River not being so high, nor its course so long, by a great difference, as popular rumour had represented.

Pursuing his journey, however, he fell in with a river, which, for some time, he supposed to be the Red. Near it he fortified himself, and hoisted the flag of our nation. He had not, however, been many days in his encampment before he was surprized at the sight of two hundred Spanish cavalry, from whose officers he first learned that he had penetrated far within the acknowledged territory of Spain, and was really residing on the margin of the Bravo, or the Rio del Norte! This river, from its source in the mountains to its termination in the Bay of Spirito Santo, is supposed to run a length of twenty-five hundred miles.

After a parley and explanation, Capt. P. ordered his colours to be struck, and consented to accompany the escort of the Most Catholic King to Santa Fe, the seat of his government for this province. Here further discussion took place. The governor contended that Capt. P. was a spy; and that the clandestine manner of entering his territory and the furry clothing, instead of regimental uniforms, with which he and his men were covered, were evident proofs of their sinister designs. To this it was replied, that his errand was lawful, and authorized by his government; that his instructions were to explore Louisiana, a country ceded to the United States by treaty, and that his appearance in Mexico arose wholly from the mistake of travelling farther to the northward than the sources of the Red River, and of mistaking for it the Bravo.

The difference at length having been explained and accommodated, Capt. P. and his men were permitted to proceed homeward. This was performed by passing down the Bravo about six hundred miles, and thence travelling the Spanish provinces and governments, in an easterly direction, until they arrived at the post of Nachitoches, on the Red River, in July, 1807.

The general idea given of these vast regions, is that of the most dismal barrenness. Their aspect is inhospitable

and uninviting in the extreme. For many a day's journey in succession there is not a tree, and scarcely a shrub to relieve the dreariness of the scene. Waste and sandy deserts occupy the principal spaces between the great rivers. And these extensive and level regions are, in many places, so impregnated with salt, that the streams are sometimes too briny to be drank; and the water even capable of being evaporated for the purpose of obtaining that article. The wilderness of Louisiana has thus a near resemblance to the deserts of Arabia, the plains of Tartary, and the Zaara of Numidia. And by its savageness and expanse, it will be capable of forming a wide and lasting barrier between the United States and their neighbours to the west and south. This nakedness of the country does not appear to be the consequence of fires in the woods, changing the forests to savannas; but of the natural sterility of the soil, owing, in many spots, to its impregnation with salt, producing only a coarse and scattered grass, that serves to feed the herds of bisons roaming over these dreary tracts. From the scarcity of wood, it was sometimes necessary to collect the dung of these animals for fuel. Lieut. Wilkinson found the distance from the place on the Arkansa, where he separated from Capt. Pike, to be about fifteen hundred miles from the point of junction with the Mississippi.

Of the sixteen men who proceeded with their intrepid leader toward the Red River, but who with him marched through a tract of country higher and more to the northward than its sources, six went forward with him to the banks of the Bravo; and the remaining ten, under a sergeant's command, were left behind at the hither foot of the chain of high mountains which are situated on the east side of that long and important river. These had charge of the camp and baggage, and were directed to remain and wait for orders from their commander and the advanced party. They had not come forward, nor formed a junction at the time of Capt. P.'s capitulation with the Spaniards. Nor were they permitted to re-associate afterwards. Several of them were crippled by the severity of the frost. They were kept separate: and although Capt. P. and the persons who were with him were treated on the whole with civility, and allowed to travel homewards as before described, the remainder of the men, with the stores and instruments, have not returned; and it is as yet somewhat uncertain whether they have been detained, or what has become of them.

They are, however, daily expected. The peak of the highest mountain in the Cordilleras of Santa Fe, was found to be two miles higher than its basis. Capt. P. attempted to reach this summit, but after travelling six days towards it, he got discouraged, and abandoned the enterprize.

The inhabitants of the country between the Kanza and the Bravo are in a perpetual state of war. The destruction of the human species is excessive in their exterminating conflicts. The survivors shudder at the sight of a stranger, and flee from him as from a destroyer. So shy and wary were the inhabitants of the tract now under consideration, that Capt. Pike declared to Dr. Mitchill, he did not see a single native of the country from the time he left the settlement of the Kansas until he arrived at the settlements of Santa Fe, a distance of between seven and eight hundred miles. He saw, indeed, in several places, tracks and vestiges of men, but they had fled, and he beheld not a human creature in travelling that long journey, except the individuals of his own party.

It must be observed, however, that along the streams and rivers whose water is fresh, there are many strips of good land, and where it might be possible to attempt agriculture; but the only serious encouragement to population would be the adoption of grazing and moving about like the wandering hordes of the Tartars. And even in this case, it is hard to conjecture how fuel could be procured for the most necessary purposes; since, in the most inviting parts of this bare and terrifying region, there are not trees enough to supply the consumption of ten years. And it is refreshed by very little dew or rain.

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*Lafon's Map of the Orleans Territory.*

In 1806, B. Lafon, a geographer and engineer at New-Orleans, published *A general Chart of the Orleans Territory, comprehending also West-Florida, and a Part of the Mississippi Territory.* The explanations are in the French language, and the whole executed from the most recent observations. The author states that a considerable portion of his materials are quite new; such for example as the courses of the Mississippi, which were finished in 1806, as well as those of the Alabama, Mobile, Pascagoula, Tangipao, Mitalebani, Tichoha, Amite, Washita, Yazoo, and their different ramifications with the Mississippi; as also the Pearl, Red, and Sabine rivers.



This map exhibits all the country on the gulf, from Pensacola to the Sabine inclusive; which, computing the longitude of the former to be  $89^{\circ} 45'$  W. from the meridian of Paris, and the latter to be  $96^{\circ} 31'$ , makes an extent of almost seven degrees of longitude. And it embraces the whole space from the south point of the Mississippi, which is its extreme termination on the side of the ocean, in lat. N.  $29^{\circ}$ , to the parallel of  $33^{\circ}$ , which is considerably to the northward of Tombigbee fort, the Yazoo-mouth, and the settlement of Nachitoches; making four degrees of latitude.

This piece of geography is handsomely executed; and is doubtless the most correct and instructive display that has ever been made of those regions. We announce it therefore with pleasure; but at the same time with an expression of our regret that it is not accompanied with sufficient explanation of their physical geography, nor of their statistical condition.

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*Price and Strother's Map of North-Carolina.*

The year 1807 has added another important map to our geography. By the labours of Jonathan Price and John Strother, a map of the State of North-Carolina has been compiled, the first, it is said, from actual survey. It includes the whole of its extensive and peculiar coast on the Atlantic ocean, from the Virginian line, a little north of Currituck inlet, to the South-Carolina boundary, at Little River inlet. But the new discoveries, made under the auspices of the national government, which have been published by virtue of a resolve of Congress, dated 2d of March, 1807, and of which we gave an account in our vol. x. p. 292, seem not to be comprehended in it. This is probably owing to their having been made after the map was put into the engraver's hands.

From its extreme point of east-longitude at Cape Hatteras, in about  $75^{\circ} 50'$  W. from Greenwich, this commonwealth extends to the 84th, or thereabout, on the westernmost part of its supposed junction with Tennessee, beyond the *Iron, Bald, Walnut, and Smoaky mountains*, in which the territorial line is not fully ascertained. The civil divisions into counties are distinctly marked and coloured. And the roads, rivers, towns, places of public worship, villas, hills, and swamps, are so minutely marked, that the map may be deservedly ranked among the most instructive publications of this class. The engraving and printing was performed by the Harrisons of Philadelphia.

*Madison's Map of Virginia.*

Long has our country complained that there was not a good map of Virginia. That complaint, however, is now at an end. For the Right Rev. James Madison, D. D. President of William and Mary College, has, during the year 1807, laid before the public his chart of that state, upon which he has many years been engaged. It includes the whole dominion, from the North-Carolina and Tennessee boundary, in 36 deg. 30 minutes, to the irregular line which separates it from Maryland, Pennsylvania, Ohio, and Kentucky. The delineation is by Mr. William Davis, and the engraving by Mr. Frederick Bossler. The longitude is reckoned from the capitol at Washington city. The map is very large, being nearly four feet by six. The upper corners are embellished with a perspective view of the city of Richmond and of the state of Ohio, comprehending the Virginia Military Tract, lying between the Little Miami and the Great Scioto Rivers. It is executed in a perspicuous manner, and the counties are distinguished by colouring, so as to give great aid to the eye in tracing them. The principal ranges of mountains are also pourtrayed; and these, with the new and correct delineations of streams, State-lines, county-lines, stage-roads, public roads, colleges, court-houses, dwelling-houses, taverns, iron-works, and mills, render this a valuable addition to our geography, and worthy to be ranked with the maps of New-York, Massachusetts, and Pennsylvania. It is very desirable that valuable maps should be accompanied with topographical memoirs.

*Southern Shrubs becoming acclimated to northern Situations.*

William Bartram, who in 1793 published *Travels made through North-Carolina, South-Carolina, Georgia, East and West Florida, the Cherokee, Creek, and Chactaw Countries*, in 1773, added thereby much to our knowledge of the plants and animals of North-America. This man of original observation, of modest merit, and unaffected manners, cultivates at his beautiful villa, on the western banks of the Schuylkill, near Philadelphia, a number of the vegetables which he found during his southern excursions. Among others, he may be considered as having already naturalized the superb Frank-linia, a native of the country near the Altamaha, to the severity of a Pennsylvania winter. The cucumber-tree too, a fine species of magnolia, grows to a stately size in his grounds. This interesting man is son to the celebrated botanist, John Bartram, who contributed much to the scientific character of

his country, by the collections in natural history which he made, and by his correspondence with Peter Collinson and Charles Linnæus. The present proprietor now inhabits the house built by his father, over one of the windows of which is this inscription, expressive of the sense of devotion which was felt by that zealous cultivator of natural history.

HIS GOD ALONE ALMIGHTY LORD,

THE ONLY ONE BY HIM ADOR'D. 1770.

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*New-England Association in favour of Inventors and Discoverers, and particularly for the Protection of intellectual Property.*

One of the powers delegated to Congress by the constitution of the United States, is that of securing to authors of useful inventions and discoveries, the advantages of their several improvements for limited terms of years. By virtue of this authority, Congress, very soon after the organization of the government under that great charter of our liberties, passed a law in favour of such useful productions of the human mind. And subsequent to that time, three other explanatory and amendatory statutes have been passed.

Experience, however, had proved that the legal provisions were very imperfect; and it became very desirable that the several laws should be revised and digested into one. Accordingly, in 1803 Dr. Mitchill obtained leave, and reported to the House of Representatives an elaborate bill for that purpose, which contained all the alterations that the acknowledged defects of the existing statutes had proved to the Secretary of State, to be requisite. But this bill being long and intricate, and withal introduced toward the close of the session, never passed the house.

In the beginning of 1805, the House of Representatives passed an order to obtain from the patent-office a list of the patents, their dates and objects, and of the persons in whose favour they had been granted. In compliance therewith, a complete list was made out, from the allowance of the first patent to a manufacturer of pot-ash in 1790, to the end of the year 1804. This curious and important document was published at large in our 10th volume. A similar call was lately made, for a continuation of the patent-list up to the beginning of 1808. Afterwards the subject was resumed in 1807; and Mr. J. Clay took in hand Dr. Mitchill's bill, and made such further amendments as experience seemed to warrant. In this undertaking that ingenious gentleman was aided by Messrs.



Barlow, Fulton, and O. Evans. The bill thus modified, was once more brought before the House; and again doomed to experience a fate like the former.

In the mean time, a Society was formed in Boston, consisting of *the inventors and patrons of useful arts*. This body, of which Benjamin Dearborn, Esq. is a leading member, published its constitution late in 1807. In the 15th section the advantages of association are thus recounted, p. 20.

"The general advantages of associating for good purposes, are too well known to need a comment; but as this institution is the first of the kind in America, it may not be improper to state some of the benefits attending it. Of those which may be anticipated with a degree of assurance, the following present themselves as natural consequences.

"1st. A liberal disposition to protect and patronize the productions of genius will be the first characteristic of the association; and each individual will receive advice and pecuniary advances when necessary, for defending his rights, and will share in the benefits of that general patronage, which the spirit of this constitution is calculated to produce, for men of genius, and pursuits of real utility.

"2d. Useful talents may be drawn from obscurity, and led to eminence, by medals, premiums, and honorary notice.

"3d. The opinions and advice of competent judges can always be obtained by an inventor, respecting mechanical movements of doubt or difficulty.

"4th. Differences may, in many instances, be adjusted between contending inventors who shall desire it, without expensive suits at law.

"5th. In the public cabinet such models will be preserved, as will aid inventive genius in pursuits which are practicable, and prevent a waste of time in those which are not.

"6th. In the private cabinet, the first outlines of a new machine may be deposited by the inventor, who thereby obtains security against the pirating attempts of others.

"7th. If similar societies be instituted in other places, an inventor will possess the advantage of introducing his new instrument without leaving home, as he can address the association of any place, with confidence in their integrity.

"8th. The travelling member of any such association will meet friends wherever he may find an establishment of the same nature, and present a certificate of his election.

"9th. The library of the association, with their models and records, will, in time, furnish a mass of information to the artist, which he can obtain from no other quarter.

" 10th. Theory and practice, so generally separated, will be invited to an intimate union.

" Finally, the good of society, and the designs of this institution are so inseparably blended, that the success of the association will be the success of the public.

" To secure these benefits and avoid contention, it shall be an established rule, that no discussion of a theological or political nature shall ever be permitted to agitate the counsels, or interrupt the harmony of the association."

The interest which individuals possess in the inventions or discoveries they may make, against the usurped or fraudulent claims of others, is thus stated and maintained, p. 9, of a *Memoir on the Rights of Inventors*.

" Such arguments shall now be stated as have been or may be suggested in favour of thus siezing the inventor's property without his consent; to which shall be annexed such replies as common sense and common justice may dictate.

" ARGUMENT 1st. *That the public are entitled to an invention at a certain period, for protecting the inventor in the quiet possession thereof to that time.*

" REPLY. If public protection conveys a title to property, then every man's estate is liable to confiscation, at such period as may be affixed by law for turning it over to the national treasury; because estates, as well as inventions, are protected by the laws. This protection is enjoyed on the consideration that a very trifling proportion of the estate be paid in a tax. A patent is also taxed in the fees paid for obtaining it; and why should not its protection be equally extended?

" ARGUMENT 2d. *That the inventor having acquired a fortune by his machine or discovery, ought to relinquish it to that public, by whose liberality he has been enriched.*

" REPLY. If government will warrant the premises, or if the inventor may be permitted to possess his right, until facts justify the conclusion, he will readily accede to this argument. But in a country where every individual of his profession encounters a thousand misfortunes, and not one of them obtains the fortune, he has a just demand upon the public, to withhold their confiscation of his right, until he may glean from it a competency adequate to his labours. As to public liberality, it is a field too extended for the eye to encompass, but its boundaries may be viewed in this correct plan. An individual purchases an article, because he conceives that article to be worth more than the money he pays for it.

" ARGUMENT 3d. *That if one person did not hold an exclusive right, another might invent a similar instrument.*

" REPLY. The first discoverer is the rightful proprietor, and the purport of the argument amounts to this: That if A. had not outrun B. then B. might have won the race.

" ARGUMENT 4th. *That exclusive rights, being the appendages of aristocratic governments, are not calculated for the meridian of a republic, and ought not to be sanctioned therein.*

" REPLY. This argument is the genuine offspring of a glowing patriot, who feels so disinterested an affection toward the public chest, that he would throw into it every one's property but his own: And his reasoning is just as conclusive, against those laws which secure the exclusive rights of matrimony, as against those for protecting the inventor."

To carry more effectually their views into operation, this Massachusetts Society has commenced a periodical publication, which is called "The Useful Cabinet." The first number was published in January, 1808; and it is intended to continue it monthly.

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*Mineralogical Notices from Kentucky.*

The following information concerning a mineral water near Harrodsburg, and a remarkable stratum of mill-stone-rock on a branch of the Kentucky River, is taken from Mr. Samuel P. Demaree's letter to Dr. Mitchill, dated Danville, February 6, 1808.

" Half a mile south of the court-house in Harrodsburg there is an acidulous spring of some note. It was discovered, as you have probably heard, in the autumn of 1806. What are the peculiar properties which distinguish this water from that of common springs, is a matter of some dispute among our chemists. Their difference is the more excusable, because none of them, I think, are possessed of the proper apparatus and tests by which to ascertain the qualities of the water. Its effects are favourable in colics, rheumatisms, ophthalmias, cutaneous disorders, &c. but pernicious in consumptive cases. The water itself is extremely transparent and sparkling—taste brackish; when boiled off, it leaves a white powder, said to be Epsom salt; when drank, it lies easy on the stomach, is greatly diuretic, and frequently cathartic.—Nearly three miles south-east of the above spring there is an old deer-lick, in which a well has been sunk, of perennial water. Of this cattle are very fond. I have seen horses run nearly half a mile,



cross two flush streams of common rain water, drink at this well, and return immediately back. Cows having access to it, fatten on very thin pasture. About this well there is clay of a tough consistence, streaked white and blue. An analysis, I hope, would prove it valuable for manufacturing earthen ware.

“ On Red River, a head branch of the Kentucky, a very curious kind of rock is found. It seems to have been formed by the concretion of innumerable pebbles, of all figures and many colours. What may be the cementive quality of the pebbles themselves, or rather of the water, or something else which has passed through them, I am not able to determine. The rock is manufactured into excellent mill-stones.”

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*American Tourmaline.*

This mineral is well known for its singular property of becoming electrical merely by being warmed. It has, therefore, excited the attention of the electrician as well as of the chemist and mineralogist. Mr. Godon, a distinguished cultivator of the physical sciences, from Paris, and now in the United States, has discovered tourmalines in several places which he has visited; and they may now be considered as existing in the neighbourhood of New-York and Philadelphia, in some districts of Massachusetts, at Georgetown in Columbia, and, above all, in New-Hampshire, whose mountains can easily furnish tourmalines enough for all the mineralogical collections in the world. Many of them consist of long black crystals, united to quartz, and possessing very much the appearance of schoerl.

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*Attempt to introduce the long-leaved Pine of Carolina into New-York.*

The following account of this grand forest-tree of Carolina was written by William Blackledge, Esq. M. C. to Dr. Mitchill.

“ Enclosed I do myself the pleasure of sending you half a dozen of the North-Carolina Pitch or Yellow Pine seed. In planting them I would not put them more than one half or one third under ground, and would select a sandy or gravelly soil; though in the lower parts of Carolina they grow in almost any soil. In Carolina, these seed are, in the month of September, blown out of the bur in which they grow, and wherever they strike the ground, come up the same fall. Some are caught in the grass, and do not perhaps reach the ground till after cold weather sets in: these come up the ensuing spring.—The timber of this tree is deemed with us so superior to the pine I have seen

in Virginia and Maryland, (for in North-Carolina we have both kinds) that no man will use the latter if he can procure the former for ship or house building, or even for fences. We distinguish this by the name of the *long-leaf*, that by the name of the *short-leaf* pine. We plank all our vessels entirely with this *long-leaf* pine, or, more accurately speaking, that variety of it called the *pitch* pine; with the variety called the yellow pine, we make all our tree-nails, best flooring plank, window-sashes, &c. the grain of the wood being very fine and of a light yellow colour. There are several different species of the short-leaf pine among us, one of which grows in low swampy ground: this is the largest of all our pines, and would be preferable on that account for many purposes, were it not that it is not so durable; the wood of this tree very much resembles in colour that of the long-leaf yellow pine, but is not so fine grained. The *long-leaf* pine with us shoots up in many instances to the height of sixty or seventy feet, is not more than twelve or fifteen inches through, and is very fine for small spars, as it is almost entirely free of knots. If its cultivation could be introduced into the state of New-York, it would, I conceive, be very valuable, particularly for ship building; for it is known by experience, that in the West-Indies and other places where the worm is very destructive to the bottoms of vessels, they will destroy such as are made of oak plank much sooner than those of the pitch-pine." These seeds have been sent to the botanical garden at New-York for experiment.

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*Account of the Pulvis Parturiens, a Remedy for quickening Child-birth.*

In a letter from Dr. John Stearns, of Saratoga county, to Mr. S. Akerly, dated Waterford, January 25, 1807, is the following narration.

"In compliance with your request I herewith transmit you a sample of the *pulvis parturiens*, which I have been in the habit of using for several years, with the most complete success. It expedites lingering parturition, and saves to the accoucheur a considerable portion of time, without producing any bad effects on the patient. The cases in which I have generally found this powder to be useful, are when the pains are lingering, have wholly subsided, or are in any way incompetent to exclude the foetus. Previous to its exhibition it is of the utmost consequence to ascertain the presentation, and

whether any preternatural obstruction prevents the delivery; as the violent and almost incessant action which it induces in the uterus precludes the possibility of *turning*. The pains induced by it are peculiarly *forcing*; though not accompanied with that distress and agony, of which the patients frequently complain when the action is much less. My method of administering it is either in decoction or powder. Boil half a drachm of the powder in half a pint of water, and give one third every twenty minutes till the pains commence. In powder I give from five to ten grains; some patients require larger doses, though I have generally found these sufficient.

"If the dose is large it will produce nausea and vomiting. In most cases you will be surprized with the suddenness of its operation; it is, therefore, necessary to be completely ready before you give the medicine, as the urgency of the pains will allow you but a short time afterwards. Since I have adopted the use of this powder I have seldom found a case that detained me more than three hours. Other physicians who have administered it concur with me in the success of its operation.

"The *modus operandi* I feel incompetent to explain. At the same time that it augments the action of the uterus, it appears to relax the rigidity of the contracted muscular fibres. May it not produce the beneficial effects of bleeding without inducing that extreme debility, which is always consequent upon copious depletion? This appears to be corroborated by its nauseating effects on the stomach, and the known sympathy between this viscus and the uterus.

It is a vegetable, and appears to be a spurious growth of rye. On examining a granary where rye is stored, you will be able to procure a sufficient quantity from among that grain. Rye which grows in low, wet ground, yields it in greatest abundance. I have no objections to your giving this any publicity you may think proper.

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#### *Progress of Vaccination in Bengal.*

Christians, Mahometans and Hindoos all unite in welcoming the vaccine inoculation to India. Within the Government of Bengal the number of persons who had undergone the operation, at the vaccine stations, and in other parts of the country, in 1805, were fifteen thousand and seventy-seven; and in 1806, amounted to eighteen thousand one hundred and seventy-one; making in those two years an aggregate of thirty-three thousand two hundred and forty-eight. W. G. Miller, Esq. of



Calcutta, relates, in his letter on the subject, dated in June, 1807, "that the native inoculators perform the duty assigned to them with assiduity. Only five cases of a suspicious nature have occurred. I allude to the idea entertained of the vaccine inoculation having taken place, and the small-pox having afterwards affected the patient. These five had evidently never been vaccinated; as a regular account of the place and residence of the persons inoculated is kept in a register, and on reference to this register, the names of the persons were not to be found. Added to which, there was no mark of infection having been communicated on the arms. The prejudices of the natives are daily decreasing, and a number of their most noble families have received the cow-pox. The numbers which have undergone this salutary operation in Madrass are almost incredible, being nearly one hundred and thirty thousand in a year."

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*Wheaton's method of making Quicksilver Ointment.*

An improvement in pharmacy is thus communicated by Calvin Jones, M. D. of Raleigh, (N. C.) in a letter, dated January 12, 1808.

"Dr. Sterling Wheaton, of this city, has invented a method of making quick-silver ointment, that abridges the labour required by the usual method more than four fifths, and produces a very complete and perfect incorporation of the component parts; which I send you an account of for the Medical Repository.

"Triturate one pound of quicksilver with six ounces of honey in a mortar. If the mass is too viscid, add occasionally a little water, and in the latter part of the process a little flour. When the globules have entirely disappeared, incorporate two or three pounds of lard as desired; and when the union is complete, wash out the honey and flour by mixing and rubbing with it water, which is to be poured off, and persevered in as long as it appears turbid, or continues to taste sweet. Of the great superiority of this process over the common one I have had frequent proof.

"Wooden vessels will preserve the ointment much longer free from rancidity than earthen ones.

"If you deem it proper you will insert a notice of the above improvement in the Medical Repository; and thereby do justice to the ingenuity of the inventor, and serve the medical public."

*Bill of Mortality, for Portsmouth, New-Hampshire, for A. D. 1807. By  
Lyman Spalding, M. D.*

<i>Complaints.</i>	<i>Age.</i>	<i>No.</i>
Aphtha	3 weeks.	1
Aneurism	26 years.	1
Asthma	77, 42 years.	2
Atrophy	3, 3m. 2y. 6m. 2, 75y. 3, 7, 1m. 1, 1, 4y.	12
Bleeding at the umbilicus	1 week.	1
Cholera of infants	1 year.	1
Consumption	{ 65 45 22 28 76 56 37 50 67 44 70 23 38 30 25 34 22 37 39 79 36 19 35 42 23 37 55 36 23 53 years.	30
Convulsions	6, 1m. 68, 2y. 12d. 18 years.	6
Dropsy	28, 34, 75, 75, 34 years.	5
Dropsy in the brain	1, 7 years.	2
Drunkenness	37 years.	1
Epilepsy	45 years.	1
Erythema	2 months.	1
Fever bilious	17, 5, 15 years.	3
Fever from worms	6, 2 years.	2
Fever inflammatory	24 years.	1
Fever intermittent	51 years.	1
Fever typhous	18 years.	1
Fever pulmonic	62, 46, 37, 64, 48 years.	5
Herpes	66 years.	1
Influenza	51y, 2, 1m. 43y. 15, 4m, 72 years.	7
Jaundice	27 years.	1
Mortification	67y. 7m. 63, 67, 16, 33, 5 years.	7
Old age	79, 91, 89, 74, 89, 82, 82, 73, 80, 78 years.	10
Palsy	71, 75, 54, 64, 64 years.	5
Quinsy	2 years.	1
Schirrus liver	41 years.	1
Sudden	25, 22, 52, 60 years.	4
<i>Casualties.</i>		
Drowned	43, 56, 56, 24 years.	4
Scalded	3 years.	1
<i>Births.</i>		
Males	151	} 284
Females	133	
<i>Marriages</i>	62	

Total 119

Portsmouth, the capital of the state of New-Hampshire, situated 43° 5' north latitude, and 6° 26' east longitude from Washington, contains about seven thousand inhabitants.

On the 23d of January, at sun-rise, the thermometer was 10 deg. on the 26th 13 deg. below Zero; the coldest weather ever recorded in this town. By eight o'clock on those days, the town was so completely filled with an intensely thick fog or vapour from the Piscataqua river, as to render it almost impossible to see across the streets. A severe rain-storm immediately followed each of those days. Between the 23d and 26th the influenza made its appearance, and after visiting almost every family in town, subsided early in May.

About the middle of August the influenza made its second appearance, which was more severe than the first, sparing none, not even those who suffered the most in the former attack. After destroying a few and pre-disposing many to consumption, it disappeared in December. The mild typhous fever appeared in October and prevailed through the year.

*Questions relating to the Culture of the Cotton-Tree, in the United States.*

1. Which are the most northern parts of America wherein the cotton-tree is planted; and to what degree of latitude has it been cultivated with success?

2. Does the cotton-tree attain its maturity in all those places where rice and water-melons thrive to perfection?

3. Of what nature is the climate in those places that produce cotton? Of what degree and duration is the cold of winter, and the heat in summer? Are the nights sharp and piercing?

4. In what months does the rainy or the fair weather predominate?

5. What is the nature of the soil in those places where the culture of cotton is established? Is it sandy, calcareous, silicious, clayey, dry, or moist?

6. Does it succeed as well near the sea coast as in the interior of the country? In the islands better than on the sea coast?

7. Is the soil shaded by mountains, or encircled with woods?

8. What are the different sorts of cotton cultivated in the United States, whether perennial or in tree—whether annual or herbaceous? From what place were they procured? What are the qualities which distinguish them? What are those which are preferred, considered in point of quality as well as quantity? What are those which succeed best in the most Northern States?

9. The herbaceous cotton, when not grubbed, nor frozen, does it send forth buds from the stem, or from the root?

10. In what month do they begin to sow cotton?—and to what period may this operation be continued?

11. Is it the practice to sow in beds or in nursery, for the purpose of transplantation, and of saving time?—In this case, what advantages are derived from this method, and how much time is gained?

12. Do they always make use of the seed of their own plants, or is it considered more advantageous to import it from another country?

13. Is the grain steeped in water before it is committed to the earth? Is any preparation employed to remove the cotton which adheres to it?

14. What tillage is employed before the cotton is sown?



What is the quantity of manure per acre? Is the tillage performed with the plough or with the spade?

15. Is it sown, like wheat, in the broad-cast method, or grain by grain? In the last case, how are the holes made? What is their distance from each other? How many grains are deposited in each hole?

16. How many days elapse before the cotton plant appears above the soil? How many before it bursts the flower-bud? How long till the period of the first crop?

17. What are the different operations of labour which the cotton-tree requires from its first appearance above the soil, till the moment when the crop is gathered? How, and at what periods are those operations performed?

18. Do they water the cotton plantations? How, and at what times are those irrigations made?

19. When employed, is it found that they retard or accelerate the maturity of the cotton? That they improve its quality, and augment the product?

20. At what period, and in what manner do they cut the perennial cotton-tree, and at what height from the surface of the soil? What branches are left, and what is the number of buds which each branch is suffered to preserve?

21. Do they cut the herbaceous or annual cotton-tree? At what period, and how is this operation performed? How many branches to each foot?

22. Do they cut the extremity of the shoots, to prevent a too great quantity of flowers, and to obtain a greater maturity and product in those that remain? How many flowers are left to each branch? Is there a fixed rule?

23. To what height, when not cut, does the cotton-tree grow? When cut, what is the length of its annual shoots?

24. At what time in spring do they shoot forth?

25. How many years does a plantation of the vivacious cotton-tree last? What is the year of its best produce, and that when it begins to decline? When must it be deracinated?

26. Is any method employed to shelter it from the frost? How are the frozen stems replaced? When affected by the frost, do the roots send forth shoots?

27. In the same soil, what is the most advantageous species of crops which may precede or follow that of cotton?

28. At what period is the crop gathered? How long

does it continue? How is it performed? By what signs is the proper time known?

29. What quantity of cods, and what weight of cotton does the tree commonly yield per foot? Do all the cods ripen? Is the quality of those that are last gathered inferior to the first?

30. When gathering the crop, do they carry off the whole cods, or only the downy substance? How do they separate the four portions of the cod which envelope the cotton?

31. In gathering the cotton is its quality injured by rains? What precautions are employed to prevent the injuries which rains may occasion?

32. When ripe, may it be left without injury on the tree as long as the rains last, or must it be immediately collected, that they may not deteriorate the whole?

33. Do the cods twist or bend before they arrive at maturity, so that the extremity by which they open is turned, before opening, towards the earth?

34. When cotton is gathered, during rain, do they expose it to the air, to the sun, in houses, or in ovens, for the purpose of drying it?

35. Do they construct houses solely for the purpose of drying the cods? (In this case we would wish much to have a plan and description of this building.)

36. What are the obstacles which have presented themselves to the culture of cotton in those places where the experiment has been made? Have some of those obstacles been surmounted?

37. What are the insects, and the changes of season, which injure the cotton-tree or its fruits? What are the means employed for the destruction of insects?

38. By what procedure is the greasy matter separated from the cotton? (We could wish to have a drawing and description of the best machine for this operation.)

39. What is the greatest quantity of cotton, freed from its seeds, which an acre yields? What is the mean and the least produce?

40. Does the annual yield as much as the vivacious cotton-tree? What is the difference of produce?

41. At what rate per pound has the cotton been latterly sold on the plantation by its proprietors?

42. At how much is the culture per acre estimated?

43. What comparison can be formed between the expenses and profits of an acre of wheat and one of cotton?

44. At how many dollars may be estimated the quantity of cotton raised in the United States for a few years past? Has its culture increased, and why?

C. P. LASTEYRIE,

*Membre des Sociétés philomatique, d'agriculture de Paris, de la Société royale patriotique de Stockholm, de la Société royale des sciences de Goettingen, etc.*

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*Dark Day at Huntington, Pennsylvania.*

Thursday last was the most remarkable dark day that has ever been witnessed by the citizens of this place. The darkness occasioned by the eclipse of the sun in June, 1806, was nothing in comparison to that of Thursday. The court, which was then sitting, tavern-keepers, and many private families were obliged to light candles at 11 o'clock in the forenoon, and keep them burning for nearly two hours; the fowls went to roost, and every thing had the complete appearance of night. Indeed, it was the opinion of some, that the court ought to have suspended "the business of the country," as there was every appearance of a sudden termination of earthly affairs, and that they, as well as all others, would soon have to appear before a higher tribunal. The morning had been foggy, and the atmosphere extremely cloudy, but whether that could have occasioned the total darkness at noon, we cannot pretend to say.

*Huntington paper, Nov. 12.*

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*Warm Day at Northampton, Massachusetts.*

On the evening of the 27th ult. the wind shifted suddenly from a southerly to a south-westerly point, and blew most violently chief of the night. As soon as the wind shifted, a very uncommon heat of the air was sensibly felt; so very warm, that opening a door of a room where was a good fire, the air abroad was much warmer than in the room, and occasioned a sensation very similar to the effect of the heat of an oven, or the blast of a furnace. We hope some person has been so observing as to note the variations of the thermometer and barometer; and will be good enough to hand it to the public.

*North. paper, Dec. 2, 1807.*



*Masses of Hair found in the Human Stomach, and extracted on Dissection after Death: In a Communication from the Hon. Jonathan O. Mosely, Representative in Congress from Connecticut, to Dr. Mitchill. (With a Sample of the Hair.)*

Died, on the 15th of March, 1807, at the house of Capt. Levi Palmer, of East-Haddam, widow Mary Sparrow, relict of the late Nathaniel Sparrow, of that town. The circumstances attending the death of this woman are deemed so important as to merit the notice of the public; and it is not improbable they will excite the astonishment of the medical faculty, and prompt to industrious researches, with a view to a correct elucidation of this singular medical phenomenon. She was corpulent to a very unusual degree: in her person and housewifery she was very neat and tidy. She never had any children; and, during the greatest part of her life, had lived in circumstances of competence. For about one year previous to her decease, she had been troubled with a difficulty, in the *œsophagus*, of swallowing; and when she swallowed, either solid or liquid substances, the effort was attended with an uneasy sensation. This difficulty of deglutition had increased for several of the last months of her life; and, during the same period, was often succeeded by retching, and a rejection of what she had swallowed. Medical aid, although faithfully administered, did not afford relief.—On dissection, which was performed in the presence, and by the assistance of Thomas Mosely, M. D. (late President of the Connecticut Medical Society) Drs. Augustus Mather, and his son, Ozias Mather, all of East-Haddam, and Robert Usher, of Chatham, the following appearances were discovered:

*Appearances on Dissection.*

On laying open the integuments, the stomach appeared considerably distended. On the left side were several hydatids attached to the stomach on the outside, the contents of which were various. Of some, they were thin and transparent; of others, oily and glutinous; and the matter contained in one was purulent. Some of these contents were *fœtid*, whilst others were free from *fœtor*. The largest hydatid contained a dark coloured water, about half a pint in quantity. A *schirrus* was formed upon and round the left orifice of the stomach, which extended to a considerable distance.—The stomach, on being laid open, was found to contain about a pint and an half of a yellowish unctuous

*mucus*, immersed in which were TWO BALLS OF HAIR—one about the size of a goose's, the other of a hen's egg. This hair (some of which the writer of this article has seen) is of a brown colour, with rather a reddish cast, resembling cattle's hair; is nearly of an equal length, (about two inches) and on being examined with a microscope, it evidently exhibits the radical, and the pointed end, common to hair of that description. In that portion of it which the writer has seen, some few hairs were of a darker complexion than the generality of them. Whence it originated, or how it was conveyed into the stomach in such a quantity, are questions which the writer will not attempt to answer. At first view, to the reader it may, perhaps, appear easy to solve these queries. But after maturely reflecting on the subject, difficulties will, probably, suggest themselves to his mind, which it will not be easy to obviate. It is, certainly, a very rare occurrence; and will, doubtless, give rise to different opinions among men of science.

Instances, somewhat of a similar nature, are recorded by different writers. *RUYSCH* mentions a tumour which was taken from a man's stomach, that contained hair and teeth; which tumour he had preserved in his collection. Tumours similar to the last mentioned, have been found in the ovaria; and *BAILLIE* mentions one (among others) which he had himself discovered, containing hair mixed with a fatty substance, and the body of a tooth covered with the enamel. I find no mention of any tumour of this description, which did not contain a bony substance also, whether it was lodged in the stomach or ovarium. But in the instance here recorded there appears to have been nothing of the kind. In this respect, so far as I am informed, it stands alone.

The fluid contents of the stomach, in which these extraordinary balls were immersed, on being exposed to the air for a short time, in a vessel in which they had been temporarily deposited for convenience, became a congealed mass, of nearly the consistence of tallow. Unfortunately, this hair was distributed in different parcels to individuals, and was not accurately weighed. It is supposed, however, from weighing, as was judged, about one third, that the whole, after it was dry, was six drachms.

The subject of this singular calamity, during her indisposition, I am informed, frequently mentioned, that she distinctly perceived the motion of globular substances, or (as she expressed it) "balls," in her stomach; but never

intimated any thing which gave rise to a belief that she had any suspicion of their nature. Her fears of dying, which were strong, seem to preclude all reasonable suspicion that she had designedly swallowed the hair which was found in her stomach after death. It is, indeed, hardly credible that she should. I have now communicated the case, faithfully, to the public, and shall leave it with them, without hazarding any conjectures of my own.

Some of the hair is now in possession of Dr. James Lee, of New-London, where it may be inspected by those who wish to examine it.

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*Farther Discoveries in Fossil Zoology.*

In our Hex. I. vol. iv. p. 211—214, are published the accounts written by Messrs. Miller and Graham, of the uncommonly large bones found in the year 1800, in the marl-pits of Orange and Ulster counties, not more than seventy miles north of the city of New-York. And in Hex. II. vol. iii. p. 322, the dimensions of the skeleton found there by Mr. Peale, and sent to Europe, are detailed. From this region have been obtained the largest and most considerable collections of these fossil remains of the great unknown animal, which formerly inhabited the forests of New-York.

Kentucky has been distinguished almost ever since its discovery by white men, for the extraordinary number and size of the bones found at different depths, from one to twenty feet, in the neighbourhood of the *licks*, or places resorted to by wild animals to regale themselves with briny water, that oozed out at those spots. The place most celebrated for these animal remains, and particularly for those of the undiscovered quadruped, called the mammoth, are generally distinguished by the name of the Big-bone-lick.

In addition to the wonders of fossil zoology heretofore afforded by the Big-bone-lick, from time to time, since the settlement of the country, a large and curious collection was made during the year 1807, by Capt. Clarke. This gentleman, since his return to his own country, from the expedition to the Western ocean, toward the end of 1806, employed persons during the following summer in digging from the earth, at the before mentioned place, some of the animal relicks with which it abounds. These he found in great plenty. He packed up an assortment of them in boxes, and shipped them down the Ohio and Mississippi to New-Orleans, addressed to the President of the United States.



Thence they were forwarded to the seat of the national government, and arrived there in good order about the beginning of March, 1808.

This collection was seen by Dr. Mitchill, and described by him under the following several heads. 1. Many dozens of the smaller bones of the *huge incognitum*, which seem to have belonged to the feet, and may serve to complete the whole compages belonging to those parts, by enabling anatomists to complete imperfect skeletons already in their possession. 2. Bones of the legs, for the purpose of being connected with the former. 3. Bones of the head and upper jaw, which promise to display more of the structure of those perishable parts than has hitherto been possible. 4. Two kinds of teeth, of very large size, and detached from the jaws: some of these teeth are of the common form, resembling those of carnivorous animals, and the others have the shape and structure of elephant's grinders. 5. Fragments of lower maxillary bones containing the grinders fixed in their sockets. These jaws are broken through the symphysis of the chin, and none are entire. 6. An enormous outer tooth or horn, resembling the tusk of an elephant, but of a vastly greater size. Though this is decayed at both extremities, it consists plainly enough of ivory. It has a singular spiral curvature, and is about — feet in length. 7. Several smaller tusks, the least of which is about three feet long. They are of great specific gravity, decayed and broken at the ends, and disposed to split and crumble to pieces when exposed to the air. 8. Ribs of the shape common to these mammoth skeletons. 9. The skulls and clints of bisons, dug up in the same ground with the former. But though the horns are wanting, their osseous core, pith, or projection remains. 10. Very large vertebræ.

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*The Mammoth really a Northern Elephant.*

It has been long known that the famous anatomist Cuvier had decided that the mammoth of Russia, or the elephantine animal, whose bones are so common under ground over both the old and the new continents, was a species of elephant different from that of India and the warm latitudes.

This opinion has received strong and recent confirmation. Mr. Adams, an associate of the academy of St. Petersburg, has lately discovered an almost entire carcase of this animal, amidst the ice of Siberia, near the mouth of the river Lena. Although the account transmitted to the society is very incomplete, it is

demonstrated that the creature was covered with a very thick coat of hair. From this fact alone, it is evident, not only that the mammoth was a different species of creature from the elephant of Africa and India, but that this northern elephant was capable of living in a very cold Climate.

*Analyse des Travaux, &c. 1807.*

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*Mr. Griscom's Lectures on Chemistry.*

This gentleman has been very usefully engaged for several months past in delivering a course of popular lectures on this interesting branch of science, in this city. The zeal and industry which he displays in the undertaking, and the success of his endeavours to unfold and familiarize to his audience the principles of chemistry, by a series of ingenious and accurate experiments, certainly reflect a high degree of credit on his abilities as a teacher. His lectures have been attended by upwards of one hundred persons of both sexes, and have obtained a distinguished degree of approbation.

In the course of his experiments, he made many trials of the peculiar effects of *nitrous oxide*. In order to give some account of the manner in which these trials were conducted, we lay before our readers the following general observations on the subject, drawn up by Mr. Griscom himself, and afterwards a detail of the experiments by one of his hearers.

"In the class of stimulants to which physicians may with safety resort, in order to produce an increase of vital energy, it appears not improbable that a little attention to its properties, ascertained by judicious experiments, will suggest the propriety of including the *nitrous oxide*. No person, it is presumed, who had attentively examined the account of its effects as given by the English and French chemists, together with those of Professors Woodhouse and Silliman in this country, could have questioned the safety of breathing a moderate portion of this air, when it is obtained free from an admixture of nitric oxide, or nitrous acid gas. It is, no doubt, true, that every substance which has a tendency to diffuse a sudden and powerful stimulus over the body, requires to be admitted with caution, and may possibly, even when administered in small quantities, produce unpleasant effects. But if the use of this class of bodies is to be abandoned, we should strike out from the *materia medica* many of the most valuable and important remedies. It is, I think, to be desired, that the properties of this singular air should undergo a more complete investigation by

physicians, and an account be given to the public, not only of its general effects, but of the state of health and common temperaments of those who inhale it. From the trials that were made before my class, the details of which were given in the *Commercial Advertiser* of the 26th of January, by one of the number who experienced its effects, (which details are annexed) it was very observable, that upon those who were inclined to corpulency, and in the possession of full health, it occasioned the highest degree of exhilaration and rapture. This was particularly the case in the sixth and eighth experiments. So singular were the gestures of these persons, that some of the company could with difficulty believe that affectation had no share in their production. But beside their own positive declaration to the contrary, it is well known that one of those who exhibited the most ludicrous spectacle has been always remarkable for diffidence, which would have presented an effectual restraint against a voluntary exhibition of that kind before a company of nearly one hundred persons of both sexes. In the second experiment, wherein a small portion of the gas produced fainting, it may be remarked that the individual, though perhaps confined very rarely by indisposition, possesses a constitution rather delicate, and is liable to vertigo or syncope from any of the causes which usually produce them. It is not to be inferred, however, that pleasant sensations are produced by respiring this air upon none but those who are of a corpulent and robust habit. This would not be warranted from our trials. I am not of that description myself, and previously to administering it to the class, I inhaled about six quarts of the air from a large jar. The first inspiration occasioned a sense of fullness and tension about the head so great that it required an effort of resolution to persevere. But in a very short time, the stimulus was spread over the system, and produced emotions of so peculiar a kind of delight, that, on withdrawing from the pipe, the risible faculties were irresistibly forced into action.

"To be further convinced that these effects are not to be ascribed to an excited imagination, Dr. Ricketson, of this city, at my request, breathed about seven quarts of the air; having first exhausted his lungs thoroughly, and closed his nostrils with his thumb and finger. A florid colour speedily suffused his temples and forehead; the muscles of his face became expressive of high satisfaction; and when he had experienced the full effect of the air, he began to stroke my



arm with great good humour, and on the tube being taken from his mouth, he continued pinching his nose, and breathing forcibly through his mouth, until, satisfied with laughing at him, I forced his hand from his nose, when he immediately burst into loud laughter, which he found himself unable to resist.

“ It is very remarkable, that after so high a degree of excitement as that furnished by this air, no subsequent languor or depression should be witnessed. In not a single instance within my knowledge has this been the case. Even those on whom the first effects were unpleasant, felt no lasting inconvenience from the trial. In this respect the nitrous oxide appears to differ from all other stimulant applications; as well as in its producing, at the same instant, an equable excitement over the whole body. May not these properties point out its fitness as a remedy in certain cases of disease, as in palsy, or in the cold fit of a tertian or quartan ague? It would occasion little or no trouble to a physician to keep a vessel of this air constantly at hand. A boy of common dexterity, after being once taught, would be fully competent to its preparation. The nitrate of ammonia, from which it is best obtained, may be easily made by saturating nitric acid with carbonate of ammonia (*ammonia præparata*) until the solution indicates the presence neither of an acid nor an alkali, and evaporating till a whitish cloud arises. On cooling, it will condense into a salt fit for the production of the gas. An air holder of a very convenient form for preserving and transferring the air, that will contain two or three doses, can be readily made at any of the tin-shops at an expense not exceeding twelve dollars. The best method of breathing the gas, is from a clean bladder, or oiled silk bag attached to a wooden stop-cock.

*Detail of the Experiments on Nitrous Oxide.*

“ The quantity of gas which had been prepared was about twelve gallons. The first person who presented himself for a dose of it, inhaled about four quarts. Although he declared, after the tube was taken from his mouth, that he felt himself exhilarated, and experienced very singular sensations, yet he did not, by his actions, evince any remarkable effect; and the lecturer, as well as the spectators, began to despair of witnessing the effects which had been expected.

“ The second who tried the experiment, after having received about half his portion, instantly stopped short, cast a wild look around him, and immediately fainted. In about

two minutes he recovered; and experienced no other inconvenience.

"A third, who took the draft, could with difficulty be induced to let go his hold of the pipe; and it was, therefore, with violence wrested from him. He turned round to the spectators with a stare; and by a strong exertion, rubbing and clapping his hands, he appeared to relieve himself of the effect of his dose.

"A fourth, after consuming his portion, was, with equal difficulty, compelled to let go his lips from the pipe; but no sooner was this done, than he whirled round, and, by his movements, evinced that the exhilarating qualities of the gas were not confined to the *brain* alone, but had an effect equally powerfully on the *heels*. He began to jump and dance, and made his way across the room with a velocity, which admitted of no opposition. However, he was soon calmed down, and quietly took his seat.

"A fifth, whose gravity in private life is seldom disturbed by a smile, advanced to the pipe. After finishing his draft, he turned towards the spectators with a stern aspect; and then, as if his mind were dwelling on themes beyond the ken of mortals, proudly stalked over the floor to his seat. He felt no disposition to laugh.

"A sixth excited much mirth. In order to inhale the gas with facility, and to prevent the introduction of atmospheric air, it was necessary for each to close, with one hand, his nostrils. This person, after the pipe was with much difficulty pulled out of his mouth, turned to the spectators, *his hand still violently pinching his nose, and his mouth in motion*, evidently supposing himself to be still breathing the gas. In this ludicrous attitude he stood about a minute, when, his hand dropping, he broke out into such immoderate and convulsive laughter, that nothing could restrain him; and he did not cease shaking his sides, jumping and vociferating for the space of five minutes. His sensation was pleasurable beyond expression.

"A seventh, after the completion of his draft, appeared overwhelmed with sensations, which produced an insuperable disposition to hide his face. He clapped both hands to his face; and as if struggling between an inclination to laugh and to be angry, he exhibited a most singular spectacle for about two minutes; when he so far recovered as to be willing to have his face seen by the spectators: and then he took down his hands.

"The next experiment was decisive on the question whether imagination has an agency in these effects, and at the same time was highly amusing. This person went to the pipe with a determination to exhibit none of the effects which had been witnessed. However, after taking his draught, and having the pipe wrested from his mouth, he was instantly divested of the ordinary functions of intellect. The world appeared (as he has since described it) like a phantom in the semblance of Paradise before him; and every visible thing seemed to be exhibited only to inspire ecstasy and joy. Under this impression, and eager to partake of his proportion of the felicity, he broke out into the most boisterous laughter, clapped his hands, jumped up and down, with many whimsical antic capers, dashed his hat on the floor, uttered several incoherent ejaculations, then flew to his seat; and in about three minutes regained possession of his faculties.

"Two others experienced effects highly exhilarating."

*Observations on heavy Substances wafted through the Atmosphere.*

It was an observation of Mr. Vauquelin, that several metallic substances, having a near resemblance to those contained in atmospheric stones, underwent evaporation from furnaces highly heated. Mr. Seguin has since undertaken to explain the analogous facts furnished by chemistry, medicine, and hygiene. He enumerated the fumes of lead that are so frequently mischievous; the phenomena of *grimy* salts; the saline matters contained in rain-water; all the metallic and the other substances of every kind that hydrogenous gas can dissolve; odoriferous vapours and miasmata, upon which eudiometers have no operation. It appears from a survey of all these particulars, that the constitution of the atmosphere is but very imperfectly understood, since many of its vapours may be so attenuated and divided, as to be wafted to a great height.

But it must be owned, after all the facts collected on this subject, that there is great difficulty in conceiving how a sufficient quantity of these attenuated portions of metals, earths, &c. can be attracted and consolidated; so rapidly, and in such masses, as to form meteoric stones of the size that have fallen to the earth in Connecticut, and heretofore in other places. However important the remarks of these two distinguished observers may be, in respect to the real constitution of the atmosphere, it must be owned, the question of the origin and



formation of those peculiar stones that occasionally fall from the atmosphere to the earth, remains still to be answered.

*Change of a human Body to a fatty Substance, by Submersion in Water, after Death.*

The following instance of the conversion of the muscles and flesh into the peculiar matter which seems to occupy the place between spermaceti and wax, was communicated to Dr. Mitchill by the well known and respectable Lyman Spalding, M. D. in a letter dated Portsmouth, (N. H.) March 28, 1808, who vouches for the facts.

"In the Literary Mirror, a weekly gazette of Portsmouth, I saw an account of the body of a man having been picked up adrift more than twelve months after he was drowned. The singularity of the circumstance led me to make diligent inquiries relative to the facts.

"It appears, that on the 5th of March, 1807, a little before sun-set, Mr. Daniel Garland, of Kittery upper parish, aged about 45 years, left Springfield landing in a canoe, with the intention of going home. By some unknown accident, Mr. G. being alone, fell overboard; the canoe with the paddles in it, was taken up at Piscataqua bridge the next day.

"On the 13th of March, 1808, about eleven o'clock A. M. being high water, Mr. Staples, of Kittery, discovered something floating up the river, which he took to be a log, near a place well known by the name of Boiling Rock. Mr. Staples went off in a boat, and immediately discovered it to be the body of a man; he called for assistance, and by means of a board placed under the body, they carried it on shore.

"It was known to be the body of Mr. G. by the dress; having on a green shag waistcoat, which, with all the other clothes, were in a good state of preservation, except the coat, which was partly off the right arm, and hung about the neck.

"In his pocket was found his pocket book, containing several papers and some change: the papers, when taken out and dried were perfectly legible; his clothes were covered with blue clay or mud.

"The body was in a good state of preservation, except the head and face, which were nearly stripped of their teguments; the right hand was off as far as the wrist, and the left hand had lost its fingers. All the other parts of the body were apparently sound, exhibiting the appearance of spermaceti: no trace of muscular substance was to be seen. The cavities of the body were sound; the joints limber, and flexible. Within half an

hour after the body was taken from the water, the skin turned of a purplish hue, but it was wholly free from smell at evening when it was buried.

"It is well known to naturalists, that when animal substances have been for a long time covered with earth, and moistened with water, that they are changed into a peculiar waxy substance, resembling spermaceti, to which has been given the name of adipocire. I have no doubt, from the appearances, of that change having taken place in this body. We are forced to believe, that the body had been buried in this blue mud or clay, from the clothes being completely saturated with it; and had it not been buried, it must have been destroyed, if in the water, by fish, and if on the land, by vermin or putrefaction.

"The probability then being, that soon after death the body was covered over with earthy matter at the bottom of the river; it now remains to explain what should cause it to leave its incarceration at the bottom of the river, at a period of a little more than one year, and float on the surface, not like a drowned body, just perceptible above the water, but buoyant like a log, more than one half appearing above the surface of the water; which, we are credibly told, was the case.

"The time required for converting animal substances into adipocire is by naturalists fixed at about one year. Shall we say that at this time the adipociration was completed on this body, and by that means the body had become specifically lighter than before; therefore, at this particular time it broke its incarceration, and floated on the top of the water?"

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*Officers of the State Medical Society of New-York.*

At a meeting of the Medical Society of the State of New-York, holden at the city-hall of the city of Albany, on the first Tuesday of February, 1808, the following physicians were elected to the offices annexed to their respective names.

NICHOLAS ROMAYNE, *President.*

ALEXANDER SHELDON, *Vice-President.*

JOHN STEARNS, *Secretary.*

JAMES G. GRAHAM, *Treasurer.*

LYMAN COOK,

JOHN M. MANN,

WILLIAM WHEELER,

DAVID R. ARNELL,

WESTEL WILLOUGHBY,

} *Censors.*

JOHN ELY, ALEXANDER SHELDON, JESSE SHEPHERD, REUBEN HART, BARNABAS SMITH,	}	Committee of Correspondence.
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*New-York Prize Medals.*

The Medical Society of the State of New-York, solicitous to promote medical and philosophical researches in the several counties of the state, have, for the present year, proposed the following Prize Medals.

1st. A medal, value fifty dollars, for the best dissertation on the topography, geology, and mineralogy of any county in the state, together with an account of the prevalent diseases in such county.

2d. A medal, value twenty-five dollars, for the second best dissertation on the same subjects.

3d. A medal, value twenty-five dollars, for the best dissertation on the causes, and best method of preventing and of curing the typhus mitior, or low nervous fever, which prevails in the different counties in the state.

The dissertations must be delivered to the President of the Society, at his residence in the city of New-York, or to the Secretary of the Society at Waterford, in the county of Saratoga, on or before the last Tuesday in January, 1809.

The authors' names must be enclosed in sealed letters, with a motto or superscription corresponding to one on the dissertations, and which letters will not be opened till the prizes are adjudged.

JOHN STEARNS, *Secretary*  
*of the Med. Society of the State of New-York.*

*Philadelphia Prize Medal.*

The Medical Lyceum of Philadelphia, desirous of promoting the investigation of physiology, offer a Gold Medal, of the value of fifty dollars, to the author of the best essay on the following question.

“Does the human body possess the power of absorbing substances applied to its surface?”

The essay must be written in the English language, and delivered to the corresponding Secretary of the Lyceum, on or before the first day of January, 1809, with a sealed paper containing the name of the author, which paper shall not be opened, unless the medal is adjudged to the essay it accompanies.



*Appointments in the College of Physicians and Surgeons.*

The following arrangement of officers in the College of Physicians and Surgeons in the city of New-York, has lately been made by the Regents of the University.

NICHOLAS ROMAYNE, *President.*

SAMUEL L. MITCHILL, } *Vice Presidents.*  
HUGH WILLIAMSON, }

ARCHIBALD BRUCE, *Register.*

JOHN D. GILLESPIE, *Treasurer.*

*Censors.*

JAMES G. GRAHAM, *of Ulster county.*

PETER C. ADAMS, *of Greene.*

WESTEL WILLOUGHBY, *jun. of Herkimer.*

LYMAN COOK, *of Westchester.*

DAVID R. ARNELL, *of Orange.*

JOHN STEARNS, *of Saratoga.*

HENRY VAN SOLINGEN, *of New-York.*

SAMUEL TORBERT, *of do.*

JOHN D. JAQUES, *of do.*

GEORGE W. CHAPMAN, *of do.*

JOHN C. OSBORN, *of do.*

ANDREW HUNT, *of do.*

*Professors.*

NICHOLAS ROMAYNE, *Professor of the Institutes of Medicine.*

SAMUEL L. MITCHILL, *Professor of Natural History and Botany.*

EDWARD MILLER, *Professor of the Practice of Physic.*

WILLIAM JAMES M'NEVEN, *Professor of Midwifery.*

BENJAMIN DE WITT, *Professor of Chemistry.*

ARCHIBALD BRUCE, *Professor of Mineralogy.*

JOHN A. SMITH, *Professor of Anatomy and Surgery.*

JOHN C. OSBORN and JOHN A. SMITH were, at the same time, appointed *Trustees and Members of the College.*

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*Columbia College.*

The Trustees of Columbia College have lately appointed JOHN C. OSBORN, *Professor of the Institutes of Medicine.*

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*Smoking Segars.*

From the report of the Secretary of the Treasury, respecting the importation of merchandize, &c. it appears, that during the years 1804, 1805, and 1806, forty-six millions, four hun-

dred and ninety-nine thousand five hundred and sixty SPANISH SEGARS were entered at the different custom-houses in the United States; affording to the revenue, at the duty of two dollars per thousand, the sum of 92,999 dollars. The average price of segars at Havanna may be estimated at seven dollars per thousand. So that in the short space of three years the enormous sum of 418,495 dollars has been puffed away by our citizens in SPANISH SEGARS.

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*Remarkable Fruitfulness.*

In the town of Washington, on the east bank of Lake George, (State of New-York) on Wednesday, March 2d, Mrs. Sarah D. Irish, the wife of David Irish, twenty-two years of age, was safely delivered of FIVE living children, by Dr. Branch, of the same place. The children are completely formed, from twelve to fourteen inches in length. Pregnancy was supposed to have been six months advanced. These infants all expired in the course of twelve hours. The mother is doing well. The bodies are brought to this place to be kept in a state of preservation, and to demonstrate the truth of this singular and uncommon occurrence.

*Albany, March 8, 1808.*

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*The Rev. Mr. D. B. Warden, Secretary to the American Legation at Paris, has transmitted to the Editors the following Account of a French Prize Question.*

By the orders of the French Emperor, a prize of 12000 francs is offered for the best dissertation on the *Angina Membranosa*, or *Croup*, which lately proved fatal to the heir apparent of the French throne. According to the terms of the program, the nature of the disease must be explained, its origin and progress, its relations to other diseases, the mode of treatment, and the means of prevention. Foreign physicians are invited to the competition; and memoirs on the subject will be received till the 1st of January, 1809.

As soon as we can obtain a copy of the program, which has not yet been received, a translation of it shall be presented to our readers.

## FOREIGN.

*Interesting Chemical Discoveries by Professor Davy, of the Royal Institution, London.*

BY some late experiments it has been ascertained by Professor Davy, that potash and soda are not *simple* substances, but compounds of oxygen and peculiar metallic bases. The decomposition is effected by submitting a portion of pure potash, on a plate of platina, to the zinc-end of a powerful continuation of galvanic plates, consisting of one hundred and fifty pairs of six inches, and one hundred of four inches square. By this means the oxygen is driven off, and *small globules, like quicksilver, run from the alkali.* These are to be immediately plunged into distilled oil of petroleum, which dissolves a film of alkali that covered them. If one of these globules be taken out and placed upon turmeric paper, moistened with water, it immediately explodes with flame, and leaves a blood-red streak of alkali. In this case, the water, being instantaneously decomposed, affords oxygen to the base, which is thereby re-established in its original state of alkali. By placing one of the globules on a piece of ice, an immediate dissolution of the latter is produced, and an explosion with flame takes place. This metallic base seems to have a more vehement attraction for oxygen than any other substance hitherto known, and from the velocity of its combination with it, produces the explosion just mentioned; of course, it must be a very powerful agent of decomposition. These metallic globules, obtained both from potash and soda, are lighter than water; the specific gravity of those from potash being about six, (water ten) and those from soda, seven. At 32° of Fahrenheit, they were hard and brittle; at 40° they resembled quicksilver; at 60° they were still more fluid; and at 100° volatile. One part of this new metal, with about forty-eight parts of quicksilver, forms a perfect amalgam; which, aided by the galvanic battery, immediately dissolved iron, silver, gold, and platina. Glass, like the metals, was also dissolved by means of this substance. It was found that one hundred parts of potash consist of fifteen of oxygen, and eighty-five of the metallic base. Soda contains twenty of oxygen, and eighty of the base. Ammonia, supposed formerly to consist merely of hydrogen and azote, was found to contain oxygen likewise; one hundred parts of ammonia gave out twenty of oxygen.



It had been long since suspected by the French chemists, that the simple earths were metallic oxyds, retaining their oxygen with a force, which no means had been discovered of overcoming. The basis of soda had been found to be *magnesia*, and that of potash, *lime*, by the experiments of M. Thouvenet, M. Berthollet, and other chemists; and they may, therefore, be classed with the earths; but no attempt has till now been known to be made to verify the conjecture of the metallic nature of these earths.

Perhaps no long period may elapse before argil and barytes shall be made to produce metals, as well as the substances before mentioned. Barytes, particularly from its great weight, affords the strongest presumption of its being of a metallic nature.

*Corrections and Additions, from the Athenæum for March, 1808.*

Some inaccuracies having occurred in the account of Mr. Davy's discovery of metalloid substances in the fixed alkalies, the earliest opportunity is taken to correct them.

Mr. Davy stated that the basis of potash is volatile at a heat a little below redness, instead of at  $100^{\circ}$ , as asserted at first; and that the amalgam of the basis of potash and mercury, dissolved gold, silver, and platina; without mentioning that a galvanic battery was used in aiding its operation.

His statement with regard to glass was, that the basis of potash decomposed it, by combining with its alkali, and by forming a red oxide, of a less degree of oxigenation than potash, which oxide was also procured by other means; and not that it was dissolved by the basis of potash in the same manner as metals. He also mentioned that the specific gravity of the basis of soda was to that of water as 9 to 10, instead of as 7 to 10.

Messrs. Pepys and Allen have repeated Mr. Davy's experiments with a large galvanic apparatus, consisting of 120 pairs of plates of 36 inches surface each, containing near seven hundred weight of metal. The solid caustic potash was used, moistened by the breath. The metalloid obtained was highly inflammable, swam in rectified naphtha, but was with difficulty separated from the potash, in which it was plentifully imbedded, after being exposed to the action of the galvanic battery. Water dropped on it made the particles explode like grains of gunpowder thrown into the fire.

The metalloid obtained from soda is not so inflammable as that from potash, and therefore can be more easily collected.

A globule of it, about the size of a small tare, thrown on moistened paper, became instantly red hot.

Mr. Allen has also obtained both the metaloids, by four troughs of fifty pairs of plates, each of sixteen inches surface.

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*A Bed Frame, on which sick or wounded Persons may be conveyed to distant places, with ease and safety.*

From the middle of two poles, about seven feet long, by which the frame is carried, arise two pillars about two feet high, on the top of which, two pieces of flexible ash are fastened at their centres, which are tapered from thence to their extremities, so as to have a considerable spring; the pillars are braced to the poles and springing pieces, by iron arcs, like the letter C, placed back to back against them, and well fastened by screws, where they come in contact with the various parts.

The poles and springing pieces are sustained in a proper position by cross pieces at each end, which keep them about four feet and an half asunder: from the ends of the springing pieces, a cot, similar to that used by officers on shipboard, containing a light matrass, is suspended by hooks and rings, so as to be easily removed; one or two hammocks may also be slung in the same way, if they are preferred to the cot: across the spring pieces four or five light circular hoops are fastened to sustain a canvass covering to protect the patient from the weather.

In using these frames, the sick or wounded person should first be placed in the bed: the frame should then be placed over the bed, and its head be raised first and attached to the hooks by the rings and loops: its foot should next be raised and hooked on. The whole should then be carried by the poles to the cart or waggon, on which it is to be conveyed, and to which the poles are to be tied. When the carriage arrives at the hospital, the whole frame should be carried to the room where the patient is to remain, and the bed should be unhooked from it, first at the feet, and afterwards at the head.

This frame has been found extremely useful in military service; and is also much used in many of the public hospitals; where it is found of service not only in conveying patients to and from home, but also those who underwent operations, from the wards and back again.

It has also been found of great benefit when fixed upon the carriage of a post-chaise, in carrying wounded or sick persons from distant parts of the country, who were unable to bear

the motion of a chaise or coach, to towns, where they might receive medical advice. The use of it in this way has become very frequent in Scotland, and very beneficial to those conveyed by it: all of whom concur that they were insensible of any unpleasant motion during their respective journeys.

A person was brought in it with a compound fracture in the thigh bone, from the West Highlands to Edinburgh, a distance of seventy-two miles, in two days. And a gentleman with an attack of the gout in both hands and feet, was removed from Edinburgh to the north of England, above one hundred and forty miles, in three days; in both those instances it was suspended to the carriage of a post-chaise. Some hundreds of examples can be adduced of the safe removal of patients, by its means, when fixed to a cart or waggon, many of whom were in a state of the greatest bodily distress and debility.

In all these removals, the patients have borne testimony to their having suffered no additional pain or inconvenience from the motion of the machine, and to their having experienced no bodily fatigue from the journey. [Athenæum.

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*Method of purifying Fish Oils, and other Oils, and for converting the unrefined Parts to Use.*

Mr. Speer's method of purifying oil depends on the idea that its impurity is occasioned by a quantity of *gelatin* retained in it, which it may be freed from by a proper addition of *Tannin*, which is known to precipitate it in an insoluble state.

A variety of substances are mentioned in the specification, which yield Tannin, as shumach, gall-nuts, japan earth, or catechu, barks of oak, alder, chesnut, birch, willow and elm, Tormentil root, and the substances prepared by Mr. Hatchet's method, described in the philosophical transactions: of these, oak bark is preferred, and is used in the following manner.

In a quantity of soft water equal to the oil, which is to be refined, a tenth part of its weight of oak bark, chopped or ground small, is to be infused for one or more days; the mixture is to be frequently agitated during the time of infusion, and the clear liquor is afterwards to be racked off into another vessel. Equal quantities of this infusion, and of the oil, are to be boiled together in a copper vessel, and to be violently agitated from the beginning of the time they are first put into the boiler, till a considerable period after the boiling has commenced; for which purpose an instrument is to be used of the nature of a churn-dash; cold water is found to be of service,



added to the mixture gradually, about a quarter of an hour after the agitation is commenced. In another quarter of an hour, the mixture is to be run off into another vessel, and suffered to settle, until the oil separates from the grounds, becomes bright, and rises above the watery infusion, when it is to be drawn off for use. If the oil is not sufficiently pure, the operation is to be repeated with fresh quantities of the tan liquor. Various other proportions of this liquor may also be used, and it may be made with hot water, or decoctions of it may be used, but the proportions and process mentioned seems best to the patentee.

The grounds, consisting of the gelatin in combination with the tannin, are proposed to be used as a substitute for oil in making paint and putty; and for making blacking for leather, when mixed with lamp-black or ivory-black; and for making cement and plaster, in conjunction with quick-lime or gypsum: for these purposes the deposit from fish oil is preferable; though that from vegetable oils may be used with some effect also.

Mr. Speer's process will be of use chiefly for animal oil, as vegetable oils contain but little gelatin; instead of which they are mostly combined with mucilage, on which tannin will have no effect. Animal oils also do not owe their impurity entirely to the mixture of gelatin: Doctor Bostock has proved, by accurate experiments, that there is another viscous animal substance, which he calls *mucus*, that is not affected by tannin in the least, which exists largely in all animal fluids, and is precipitated copiously from them by Goulard's vinegar of lead. From some experiments made by the writer, *mucus* is abundantly contained in animal oil, as the Goulard repeatedly used with it never failed to throw down some precipitate; so that either the greatest part of it must have been *mucus*, or else the Goulard cannot be such an accurate test of *mucus* as Dr. Bostock imagines, but must also be equally well precipitated by oil, which there is some reason to suppose may be the fact. An interesting paper on animal fluids by Dr. Bostock is inserted in Nicholson's Journal, vol. xi. page 244. [Ibid.]

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*Extracts from Observations by M. R. Braconnot, on the Phytolacca, or American Poke Weed. Annales de Chemie, vol. lxxii. p. 71.*

This plant, which is acrid, has a very thick fleshy root, as big as a man's leg. Its stalks are as big as a large walking stick, six or seven feet high, and of a purple colour.

If a piece of the stalk be exposed to the flame of a candle,

it is reduced to a reticular texture, exhibiting, when viewed by a lens, a series of longitudinal filaments connected by cross meshes. If this be again exposed to the flame, it swells up, melts, and the result is potash. Four woody stalks of this plant weighed, when dry, 440 grams (14 oz. troy.) These M. Braconnot burned in an iron crucible; when it began to grow hot, the matter assumed a pasty consistence, and ended by fusing, accompanied with a swelling up, occasioned by the evolution of hydrogen gas, which burned with detonation as it burst from the melted matter.

When the crucible was cold, it contained an hard brown substance, with a caustic taste, which, being lixiviated, by pouring boiling water into the crucible, great part of it dissolved: and the liquor being filtrated and evaporated to dryness, left 28 grams (432 grs.) of a saline substance, which, in the subsequent experiments, was found to contain 17.5 grams (270 grs.) of pure potash, that contained no foreign matter, as it crystallized to the last particle.

From his observation M. Braconnot infers, that an hundred pounds of the ashes, produced by incinerating the *Phytolacca*, will yield 66lb. 10 oz. 5 dr. of dried alkaline carbonate nearly pure (potash of commerce), containing about 42lb. of pure caustic potash.

As potash diminishes considerably in vegetables in proportion as they approach the woody state, it is probable, that the *Phytolacca* would afford a much greater proportion of potash in an earlier state of its growth.

After the account of the experiments to determine the quantity of potash contained in the *Phytolacca*, that of a number of others follows, to ascertain the acid which neutralizes the potash in this plant, and to examine the nature of the colouring matter contained in its berries; and the paper concludes with the relation of the following other properties of the *Phytolacca*, and of its cultivation.

In North-America, its leaves are boiled, and eaten as spinnage, and are reported to be very good, and the young shoots are said to be as good as asparagus. The juice of the root is purgative, and may be taken in the dose of a table spoonful or two, but must not be used when there is any inflammation of the viscera. The narcotic virtues ascribed to it are illusory, as Lemerey observes.

It may be propagated by seed sown in spring in light ground, and transplanted to a dry soil, which should be dug very deep. When the plants have taken root they require no care, but to

be kept free from weeds. The stalks die with the first frosts, but the roots are perennial, and throw out shoots in the spring for several years.

The chief benefit which this plant at present affords, seems to arise from the quantity of potash which its ashes produce; and which, from the foregoing account, seems to be sufficiently great to promise considerable profit from its propagation for this purpose solely, though there is little doubt but that considerable advantage might also be derived, from using its leaves to feed cattle in the farm yard.

A given weight of the dried stalks in the experiment, afforded nearly a fifteenth of their weight of potash. If then an acre produced five tons of the plant in this state, which, considering its great size, is but a moderate computation, then  $6\frac{1}{2}$  Cwt. of potash might be expected from this quantity, which, at the present price of potash, would sell for about 16*l.* 5*s.* besides affording a quantity of food for cattle that might be equally valuable, if not more so. [*Ibid.*]

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*An Improvement of the Galvanic Trough, to prevent the Cement from being melted when the action is very powerful.  
Extracted from the Athenæum for March, 1808.*

A gentleman of Tunbridge, who does not choose to make his name public, has found that considerable advantage arises from making galvanic troughs with glass partitions, for constructing galvanic batteries on the principle of Volta's *couronne des tasses*, in the manner recommended by Mr. Wilkinson, which is described in our last number; the superiority of which, he takes for granted, to be fully established. In troughs constructed on Mr. Wilkinson's plan, one material inconvenience is experienced; the increased action of the acid on the zinc plates, arising from their having the whole of their surfaces exposed to it, occasions so great an heat as frequently to melt the cement, with which the *wooden* partitions of these troughs are coated. Glass partitions completely prevent the heat from having any bad effect. It is best to make them so much larger than the metallic plates, that a space of about half an inch may be left between the sides and bottom of the trough, and the extremities of the metallic plates. Common crown glass is well adapted for this purpose, if of thickness proportioned to the size of the partitions wanted, the upper edges of which should be ground very smooth. In batteries constructed on this plan the greatest intensity of excitation has been found to do no injury whatsoever to the cement.